MODERN PACKAGING



Closures provide the finishing touch

November 1958

COMPLETE CONTENTS p. 2

ADHESIVE FOR GLUED LAPS eliminates flash fire hazard

LAP-LOK is a resin adhesive for glued laps that contains no flammable solvent. No benzene. No toluene. Completely safe. Worthwhile insurance against flash fire explosions.

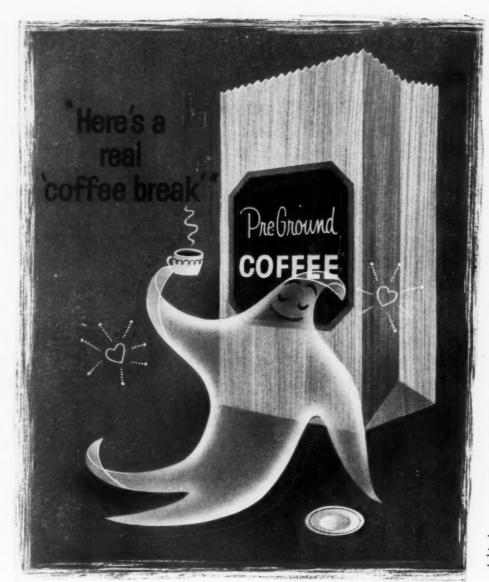
LAP-LOK has other important advantages. It dries to a clear transparent odorless film. Leaves no unsightly squeeze-out. Too, LAP-LOK safeguards against heat

failure. Withstands blistering summer boxcar heat when many adhesives in common use would fail.

LAP-LOK has been in trouble-free use for over four years. Wouldn't a point by point comparison with the adhesive you're now using make good sense? We'll gladly send a sample and data. Write or telephone your nearest National office.



NATIONAL STARCH PRODUCTS INC.





NO TRAFFIC JAMS!



NO WRONG GRINDS!



NO SPILLAGE!



NO GRINDING!

(It beats the old grind!)

Colonial Stores, Stop & Shop and others have proved it true: fresh, pre-ground coffee in PLIOFILM lined bags beats in-the-store grinding all hollow!

Fact: with the elimination of store grinding, their coffee is moving faster than ever. Wasted coffee and wasted space are down-sales up!

How about you? Tired of the "old grind"? Are you ready to make the big change that makes so much sense? For details, WRITE THE GOODYEAR PACKAGING ENGINEER, Packaging Films Dept. W 6418, Akron 16, Ohio.

Plicfilm, a rubber hydrochloride-T. M. The Goodyear Tire & Rubber Company, Akron, Ohio



MODERN PACKAGING

November 1958 Vol. 32 No. 3

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- 93 Plastics for economy It's a startling concept, but costs alone often swing the choice to plastics over other packaging materials.
- 99 Fibre can for a problem product Foil outer and plastic inner surfaces successfully hold volatile Airkem deodorant in low-cost composite container.
- 102 Upgraded cartons
 Fairmont Foods cartons use low-cost cylinder board given fine printability by new manufacturing process.
- 104 Closures Supplier-Industry Survey. Technology brings new convenience, faster production and the glamour of colorful plastics.
- 108 Design Histories
- 113 Ciba's flip-top box Can one industry get packaging help from another? A drug firm borrows an idea and a cigarette maker's machinery.
- 114 Suspension thermoform Gem razor in transparent-dome case suggests possibilities for packages that show product from all angles.
- 116 Packaging Pageant
- 120 Double-duty canister Sterling Salt's slender fibre can is big enough for cooking use, small and handsome enough for the table.
- 124 Carding the hard-to-handle Renard's low-cost packages get unusual items on the counter and tell shoppers what they're for.
- 128 Display Gallery
- 132 Efficient lug cap Cooperative research gives Pacquin jar a tighter closure, with "cosmetic look," at low cost.
- 133 Report on PI sessions Highlights of Packaging Institute's 20th Annual Forum.

Production methods

- 100 Liquid colors in polyester pouch "Glass Wax" colorants are packaged in heat-sealable film that fills need for volume outtut in leakproof containers.
- 110 Automation is not just for giants Sinclair competes in billion-dollar detergent field with \$60,000 investment that triples production.
- 121 Saving product, saving film New England candy company's machine shows the way to big economies for pouch packers.
- 130 Soft touch for marshmallows Polyethylene pouches, filled at high speed, give Cracker Jack product longer shelf life, new sales appeal.

B) .

Technical

- 147 New saran-type film
 A heat-shrinkable flat film for wrap applications.
 By Donald E. Westcott and Howard H. Reynolds.
- 151 Degradation of cellulose by light
 Reasons for breakdown in packaging materials.
 By Joseph H. Flynn, William K. Wilson and William L. Morrow.
- 156 Questions and Answers



Departments

- 4 Editorial 91 Featured in this issue
- 37 Background for packaging. Notes, quotes and comments.
 158 Equipment and materials 188 U. S. patents digest
- 168 Plants and people 199 Manufacturers' literature
- 184 For your information 226 Index to advertisers

The Modern Packaging General Alphabetical Index for Volume 31, providing a complete reference to contents of all issues from September, 1957, through August, 1958, is now available free of charge to subscribers, but will be sent only on request. Address requests for copies to Readers' Service Editor, Modern Packaging, 575 Madison Ave., New York 22.

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Hour in, hour out, this REDINGTON fully automatic Type 24 Cartoning Machine turns out a steady flow of filled, sealed d-CON packages – at minimum labor cost

Proper packaging methods are mighty important in the preparation for the market of nationally sold products.

The sealing of the carton which holds such a product must be positive and secure to reach the consumer "factory fresh". The carefully designed package must reach the store and the consumer's eye in first-class condition, neatly assembled and squared. And production costs on the packaging line are an ever more important consideration when large volume is involved. Furthermore, regular, uninterrupted flow of finished packages is an essential to meet delivery schedules.

Because the REDINGTON Type 24 Automatic Cartoning Machine handles all these factors, it was the logical choice for the d-CON Company to handle their 1 lb. package.

THE PACKAGING OPERATION

Filled and sealed bags of the product are fed up to the REDINGTON on a

conveyor belt. The illustration shows how the single girl operator takes these bags from the belt and places them in the individual pockets of the REDINGTON's article conveyor. (One other worker supervises the staff along the entire packaging line, and keeps the carton magazine filled).

As the loaded pocket approaches the carton magazine, the machine automatically feeds and forms a carton from the flat stack, and inserts the bag. Next, the machine closes the carton by double-gluing the end flaps for a secure closure.

The ends of the carton are then automatically squared—a REDINGTON feature; and the carton is then discharged through the drier.

A special detector prevents the feeding of a carton should an empty article conveyor pocket approach the filling position. The speed of the cartoning machine is geared to the rate of flow of filled bags of product, so that production is continuous with a minimum of direct labor involved.

NO GUESSWORK WITH A REDINGTON MACHINE

REDINGTON Packaging Machines have been solving problems, improving production and lowering costs for packagers in almost every conceivable field for more than six decades. The length and breadth of this experience is reflected in the expert, practical engineering which goes into REDINGTON



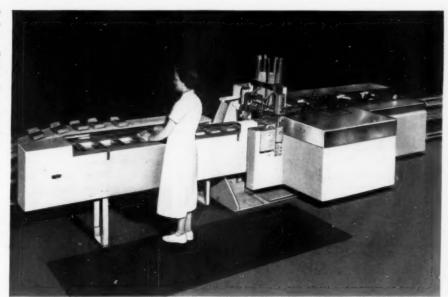
THIS 44-PAGE CATALOG

fully illustrates and describes the big REDINGTON line of packaging machinery. Send for your copy today—no obligation.

F.B. REDINGTON CO.

3010 ST. CHARLES ROAD, BELLWOOD, ILL.

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design; in the uncompromising quality of the materials which go into every REDINGTON, and which assure long years of trouble-free performance; and in the many REDINGTON features, such as solid one-piece frame—ground and polished shafting—all main shafts turning in self-aligning roller bearings—and many more.

No wonder, then, that you'll find REDINGTON equipment in the largest plants, packaging some of the country's best-known and biggest-volume products—and in so many smaller plants as well, where the essential values in REDINGTON machines have made this equipment the best investment, in terms of performance, reliability, freedom from maintenance and downtime, and long life.

Our engineers will be glad to discuss your packaging with you. Why not write—or phone—today for a call?





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A string around your finger

Readers of Modern Packaging who have so loyally supported our plan to pass on outdated copies of the *Encyclopedia Issue* to students will have a new responsibility when the new issue reaches them shortly.

Due to changes in postal regulations, we can no longer enclose in the issue the return postcard which for the last several years had made it easy for readers to let us know that they would like a filled-in mailing label by which the old issue, slipped into the container in which the new one arrived, could be directed to a college student of packaging who had asked for it.

If this fine program—on which most college courses are now dependent—is to continue, our readers must now take the initiative. It will be up to each reader who wants to help out to drop us a line—just a postcard, if you like, saying, "Yes, I'd like to donate my old Encyclopedia Issue to a student." Be sure to give us your name and address. We'll do the rest. A mailing label will reach you by return mail.

The first copies of the *Encyclopedia Issue for 1959*, designed for up-to-date reference all through next year, will be going in the mails this month. Distribution of this 5½-lb. issue will take some time.

We are proud of this "reference issue" and when you receive your copy you'll see why. The 826 pages include more than 100 comprehensive articles and there are more than 50 charts and tables, many of them new and all of them rechecked and updated. The covers are bound in gleaming, golden, aluminum foil—the first time, to our knowledge, that this fine packaging material has been used as the cover for a hard-bound volume of this size.

But the old issue still has immense value to students. Michigan State University, for example, has 105 students in its School of Packaging and in four years has graduated 115 men with B. S. and four with M. S. degrees. Says Dr. James W. Goff, instructor in charge: "The gift of a Modern Packaging Encyclopedia Issue to each student has provided a ready source of reference material, both current and practical, which covers the entire packaging field.

"Providing such information early in the student's academic career helps immeasurably in impressing him with the breadth and scope of the packaging field. The expression of industry interest in his welfare, as evidenced by the very fact that the gift was made, also makes a profound impression. The neophyte packaging man feels the warmth and esprit de corps long before he actually graduates."

Last year our readers presented no less than 711 copies of the *Encyclopedia Issue* to students in 32 colleges and universities. What will the score be this year? It's up to you. Better send us your name *right now*; then, when the new issue arrives, you'll be able to send the old one off at once.

The Editors



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The demand for packaged luncheon meats from Swift & Co. is growing fast and Dobeckmun Durafilm plays an active part in specially tailored 3-side seal vacuum pack liners. Sanitary, sturdy, bright and transparent—this inexpensive packaging keeps attracting repeat sales for retailers everywhere.



Packages for performance...



Dobeckmun Durafilm is a loyal friend to the sales-making freshness of food. This extrusion or lamination of transparent plastic films achieves superior product protection and presents the look of flavor at its best.

Durafilm is tough, durable, moisture proof and heat sealing and performs economically on packaging equipment. Available in a wide variety of types—some with Mylar*—

Dobeckmun engineers Durafilm packaging to the selling specifications for meats, fish, frozen food specialties, cheeses and liquids. It is available plain or printed to put your brand in the foreground at the point of sale. From your own plant all the way to the consumer's kitchen—

The Dobeckmun Company,

A Division of The Dow Chemical Company Cleveland 1, Ohio • Berkeley 10, California Offices in most principal cities

your product is packaged for performance by

*DuPont Polyester Film





pots, pans, dust and rust...

Anything in powder sells better in a Harcord canister. The cleansers lined up here are eloquent proof. Harcord knows how to keep the costs down on your low-end line, how to super pack the foaming or chlorinated or premium cleanser, and how to satisfy the housewife with canisters that are quick opening, quick sifting, don't go soggy in her hands. Whatever dry product you pack, in quantity or in small lots, you will find the right protection and the right price when you specify Harcord canisters.

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Visualize a child's delight when he makes his own pushbutton drink or "tops" that special sundae...or Mom's face, when there are no messy "spoonin's" to clean up? It's another happy result of pressure packaging made possible by Crown-pioneered Spra-Tainers.

Only Crown makes and sells both styles of pressure packages . . . high-fashion seamless

Spra-Tainers and the colorfully lithographed fabricated style. Crown's art and lithography abilities assure optimum label styling.

Old favorite or new treat...there may be surprising merchandising advantages awaiting. Call the man from Crown...for consultation on new ways to serve your market by pressure packaging.

for cans • closures • crowns • machinery



CROWN CORK & SEAL COMPANY, INC. 9300 Ashton Road, Philadelphia 36, Pa.



Ask your bag supplier to show you this new packaging development

(RIEGEL DOES NOT MAKE BAGS)

Tri-plex is an unusual combination of https://docs.py.com/high-speed production of semi-rigid bags. It's a brand new Riegel development, ideal for things like cookies and crackers. Makes a fine protective bag that stacks well and holds its shape. Excellent grease-proofness. Shortening will not wick through seams, folds and creases. High moisture protection keeps cookies crisp longer.

Riegel's Tri-plex has an excellent white surface for fine printing results. Bags can be supplied with heat-sealed closures. We believe Tri-plex now provides your bag maker with a truly superior material...at an

attractive price.

BAGS DESIGNED AND MADE BY PARAMOUNT PACKAGING CORP., PHILA. 32, PENNA.



Riegel

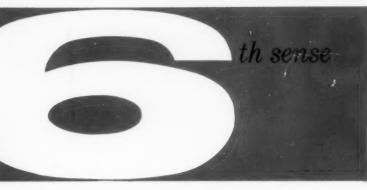
PROTECTIVE PACKAGING MATERIALS

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ONE OF THE MANY REASONS FOR DOING BUSINESS WITH NATIONAL CAN



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ANTICIPATING YOUR NEEDS AND SOLVING YOUR EVERYDAY PROBLEMS

NATIONAL CAN



CHICAGO NEW YORK SAN FRANCISCO

PLANTS FROM COAST TO COAST



PACKAGE DESIGN BY DON DAILEY & ASSOCIATES

New package has the ladies in mind

A special decorating technique helped change this lab favorite into a smart new package with extra appeal for the ladies.

The delicate Pyrocolor* decoration forms a fine lacework at the neck of this Erlenmeyer flask. And *TRADE-MARK FOR APPLIED COLOR LABELS MADE BY ARMSTRONG

it extends a full 360° around the neck. The new Armstrong-designed cap is of white plastic . . . with the company's flame trade-mark smartly embossed on its top. New packages are an Armstrong specialty. Armstrong Cork Co., Lancaster, Penna.

Armstrong PACKAGING





Accidents like this don't need to happen if you take the simple precaution of having your cartons and multi-wall bags coated with an IC Non-Slip Emulsion.

IC Non-Slip coatings give you the HIGHEST co-efficient of friction per mil of film thickness. It is not necessary to coat the entire surface.

There are four grades available to suit your individual needs.

- For application by conventional spray equipment.
- For application directly over wet decorative coatings.
- For application by roller coating.
- A product with exceptionally high tack. Applied by roller coating.

Write for further details.



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REYNOLDS WRAP ALUMINUM PACKAGING

Awrey's Pies demonstrate not only the over-all advantages of Reynolds Aluminum foil containers...but also a special efficiency. This foil pan goes to market with just its crimp-closed lid ...no overwrap, no outer carton. And it carries an omnibus illustration—three kinds of pieso that only a simple imprint is necessary to identify the particular contents. • Reynolds Aluminum protects Awrey's Pies against moisture loss, air, odors, and the light rays that can damage both flavor and vitamin content. Its high heat conductivity speeds freezing, keeps Awrey's pies colder in retail cabinets...and, conversely, makes baking faster and more uniform. Its high heat reflectivity guards against premature thawing. And the gleaming natural aluminum background on which Awrey's Pies are so temptingly reproduced-by Reynolds expert rotogravure printing-quickly calls attention to the taste treat within. • Reynolds complete service in formed foil containers includes the supply of automatic, semi-automatic or manual equipment for crimp-closing, plug-closing, etc. This is but one type of versatile Reynolds Wrap Aluminum Packaging. Find out about the others, too -and their advantages-by calling your nearest Reynolds representative. QUALITY Or write to Reynolds Metals Company, Richmond 18, Va.

PROTECTED WIT NOLDS ALUMINUM **PACKAGING**

And Awrey's Pies Get BRAND POWER PLUS with the REYNOLDS WRAP ALUMINUM PACKAGING SEAL

This Seal of Protected Quality is recognized by 8 out of 10 housewives...and 7 out of 10 of them prefer products showing it. According to a recent

nationwide survey. It's the extra selling Plus that you get with the REYNOLDS WRAP ALUMINUM PACKAGING SEAL.

REYNOL



Watch Reynolds new TV shows "Walt Disney Presents" and "All Star Golf" every week on ABC-TV.

FROZEN

APPLE

DO NOT REFREEZE ving. Preheat oven to required temperature. • Remove IId. • For homemade touch sprinkle sugar lightly on top crust. • Place pie in foil pan on cookie sheet as juice may bubble over.

BAKING TIME

Bane until top crust is government of the properties of the proper

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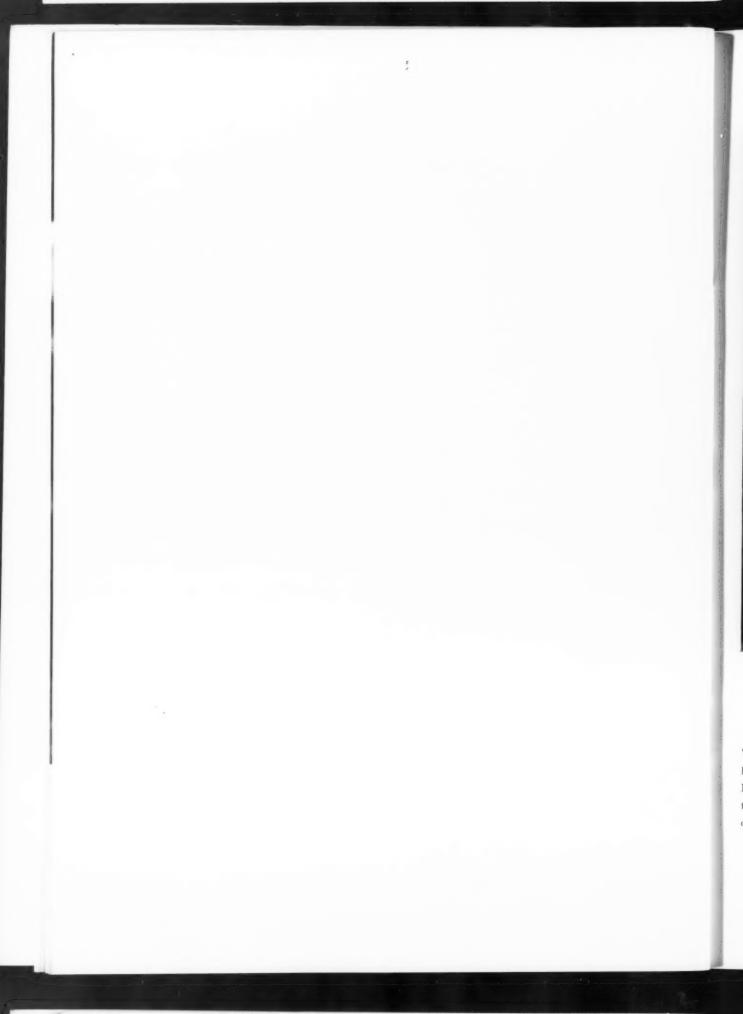
NG

Apple Pie — 450°, 25 min; reduce to 375° 40-50 minutes.
 All other fruit pies — 425°, 50-60 min.

Pumpkin Pie — 350° 1 hour 5 min., or until surface has rich, well done color.

For finest flavor let cool at room temperature at least one hour before serving.

Colorful example of the complete container service that is part of REYNOLDS WRAP ALUMINUM PACKAGING Package Designed by Friedrich, Frisbie & Cox, Inc., Detroit, Michigan



your product belongs

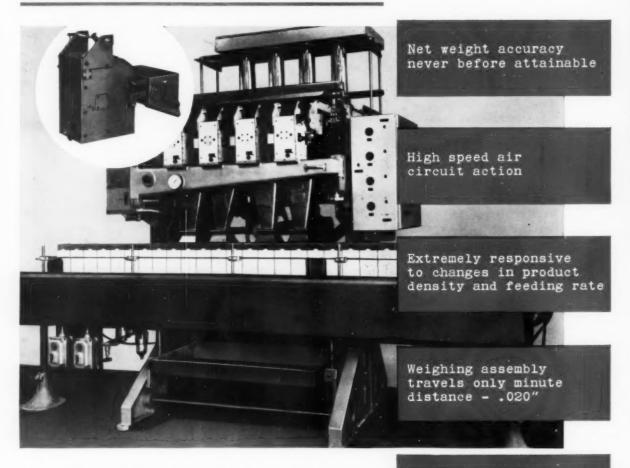


in glass by Brockway

When good friends get together like this, it's a pleasant picture for all. • It can be pleasant for you, too, in moments like these, when your product is part of that picture . . . prominently displayed in an attractive glass container by Brockway. • Brockway glass containers provide the structural strength and uniform quality to meet the demand of the modern, high-speed bottling line. • A product that is worthy of consumer acceptance deserves a quality glass container by Brockway.



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No weighing method ever devised offers the combination of speed, accuracy and dependability that is inherent in the revolutionary PNEUMATRON design. It establishes new standards of precision in net weighing. Available in two, four and six head models. Each head consists of a sensitive cantilever assembly and air control device for accurately detecting the deflected position of its receptacle as goods are filled.

Write for Bulletin #122 giving complete information.

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Practical approach to instantaneous pressure weighing

Sensitive, yet durable, continual operation without change in accuracy



Packaging and Bottling Equipment

Chunky Chocolate

goes to market in a CELLU-CRAFT package...

... and builds profitable sales volume!



PROBLEM: CHUNKY CHOCOLATE CORP. wished to introduce a package that would extend the sale of fast-selling Chunky Cuties into supermarket outlets. The package had to be transparent... bright enough to stand out from the crowd... provide sturdy protection for the chocolates, and the delicate flavors of the cashews, brazils and raisins.

SOLUTION: Cellu-Craft packaging engineers went to work to develop a package that would successfully solve all these problems.

RESULT: The proper cellophane film was carefully selected and treated to provide a cleanly produced, sparkling double wall cellophane package. This package increased sales, and eliminated spoilage and breakage.

RECOMMENDED: Put yourself in the *best* company! Have Cellu-Craft package development engineers work on *your* package problems...and watch sales grow!



CELLU-CRAFT

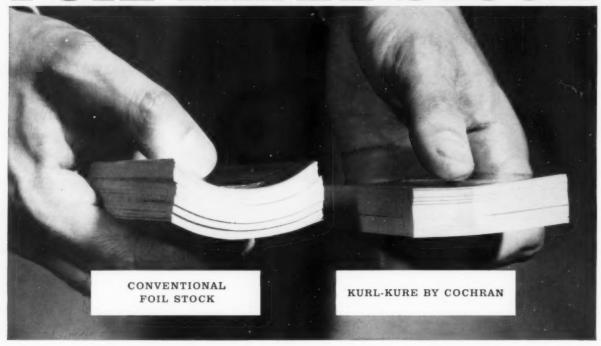
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New KURL-KURE* FOIL LABEL STOCK



Ends the troublesome curling problems of foil labels * PRINTING * CUTTING * APPLYING

Kurl-Kure foil label stock by Cochran stays commercially flat through a wide range of temperature and humidity conditions.

The photograph shows two stacks of labels subjected to prevailing conditions of the labeling department in a bottling plant. The Kurl-Kure labels are still flat which is why Kurl-Kure is already specified as the standard foil label stock by leading label users.

See your local label supplier about the benefits of labels made from Kurl-Kure label stock by Cochran. Or write: Dept. M-11, 1430 South 13th Street, Louisville 10, Kentucky.

When you buy foil or laminated foil for packaging or printing, remember...

EVERY INDUSTRY HAS ONE MEMBER WHO SPECIALIZES IN CUSTOMER SATISFACTION



Made by Cochran Foll Corporation
LOUISVILLE, KENTUCKY
A SUBSIDIARY OF THE ANACONDA COMPANY

Trademark
Patent Applied For

MARYLAND GLASS DESIGNERS WORK CLOSELY WITH MOLDS FOR DESIGN FIDELITY...

ESSENTIALLY



Package design begins with an idea

Every craftsman knows his tools, but the creative package designer must do more—first he must bring an idea to life. An idea that says Yes to questions like: Is this container distinctive? Will it sell on the shelf? Does it pack properly, ship safely? Our design department specializes in designs that stop the eye . . . start the sale. For an affirmative solution to your design problems, contact Maryland Glass Corporation, 2147-53 Wicomico St., Baltimore 30, Md.



STOCK DESIGNS A variety in blue or flint glass . . . in a complete range of sizes . . . is ready for immediate ship-

MARYLAND GLASS

Blue or Flint · Jars and Bottles

Packaging Notes

New Shock-proof Package has been developed for dropping medical supplies by air without the use of parachutes. The package features a flexible tube of polyethylene twist-suspended inside a fiber case by means of rings attached to the case. In addition to drop tests, the package has been subjected to waterspray and other tests.

Although developed primarily as a drop case for military and disaster use, the package has attracted the attention of electronic tube manufacturers and instrument makers as a replacement for the more costly and less safe packaging

now in use.

Polyethylene and Steel Returnable Container for the shipment of corrosive chemicals is now being marketed. The container features a polyethylene inner container with a steel drum outer jacket. Compared with conventional glass carboys, the new container is claimed to have a lower package cost, lower tare weight, and less cubage . . . with consequent savings in freight and handling costs. Container is being made in two sizes: standard weight 14 gallon with 5% pound inner container, and the heavy-duty 13 gallon with 8% pound inner container.

Polyethylene Zippers are being used on filter cloth bags. The zippers are jam-proof and corrosion-resistant. The poly zipper strip is sewn to the cloth with a special stitch that prevents leaking. Zippers ride in smooth grooves with no teeth to snag or collect dirt. Closure is said to withstand 80-pound pull.

Self -venting Poly Closures for Drums eliminate the need for separate vents on containers used to ship liquids. The venting feature is an improvement on the retractable polyethylene spout familiar to users of liquid chemicals in metal

The improved spout prevents liquid surge or "glug" in pouring. It is claimed that there is no waste or spillage, since the closure will vent in any pouring position. The polyethylene cap for the new spout also features a small bail to facilitate pulling the spout up into pouring position.



Self-venting flexible spout pours easily from position. Picture shows spout being raised into pouring position via new bail on reseal cap.

New Petrothene® Shut-down Resin Solves Problem of Post-startup Rejects

Eliminates High Temperature Degradation of Resin Left in Machine

A special shut-down resin is being made available as a service to customers by U.S.I. Intended for use immediately before shut-down, this material is designed to prevent the high temperature degradation that is usually

encountered in polyethylene processing equipment during normal shut-down

and start-up procedures.

When a machine operating on conventional resin shuts down, the product immediately after start-up is usually unsatisfactory. Gels, fisheyes, discolored



Adding Petrothene 205-1 to purge the production resin from the machine just prior to shut-down eliminates usual waste at start-up.

New Resin for Poly Pipe Wins NSF Approval Seal

A new U.S.I. polyethylene resin -"Petrothene" 102-216 - has been given the National Sanitation Foundation Seal of Approval for use in potable water supply pipe. Pipe made with the new resin has given outstanding results in tests conducted at U.S.I.'s Research and Development Laboratory. Minimum quick burst pressure was 15 to 20% above the minimum required under the Dept. of Commerce specification CS197-57.

Visit U.S.I. in Booth 501. **Nat'l Plastics Exposition**

Quality control as a joint responsibility of the resin supplier and his customer is the theme of U.S.I.'s exhibit this year. "Live" tests on resins, laminates, molded and extruded items are highlighted. A special feature is an information booth manned by U.S.I. technical service men to answer questions on polyethylene production and application problems. Be sure to visit U.S.I. in Booth 501!

particles, and other evidences of resin deterioration show up, not only in the initial production, but sometimes for hours afterward. The reason: Resin in some parts of the machine is held too long at too high a temperature. Thermal degradation results.

U.S.I.'s answer to the problem is PETRO-THENE 205-1, a specially prepared resin that will withstand prolonged exposure to high temperature. When this material is in the machine during normal cooling and heating periods before and after shut-down, minimum thermal degrada-

tion takes place.

The technique for using the resin is simple. A few minutes before shut-down the special resin is fed to the machine. When the normal resin has been purged, the machine can be shut down. There is little or no waste and no after effect in the machine when the new resin is used.

PETROTHENE 205-1 is supplied in pellet form, packed in 50-lb. bags. Full details about this special shut-down resin may be obtained by contacting your nearest U.S.I. office.

Polyethylene plus Glass Fiber Yields New Basic Film Material

Polyethylene is now being reinforced with glass fiber to produce a new film that combines the advantages of both these materials. The film, reinforced with non-woven glass fabric, is at present being made in a range of gauges and in clear and black.

Glass fiber reinforcement gives dimensional stability to the film, so that it does not stretch or billow. It also increases the film's break, burst, and tear strengths, which gives the film longer life in rugged applications and makes possible the use of thinner films. Fourmil reinforced film, for example, is said to more than do the job of 6-mil unreinforced film.

Other advantages cited include easier repair because any tears or rips are localized, easier heat sealing because films are thinner, higher grommet strength, and low cost.



DUSTRIAL CHEMICALS CO.

Division of National Distillers and Chemical Corp. 99 Park Ave., New York 16, N. Y.

Branches in principal cities

1,222 different size pulleys packaged **DJUSTABLE**

The world's largest manufacturers of cast iron and pressed steel FHP V-belt pulleys, Maurey Manufacturing Corporation, Chicago, Ill., package 1,222 different size pulleys on a single Model 3901 CECO Adjustable Cartoner.

Changeover time for each different size carton averages less than 30 seconds. Labor savings range from 30% to 70% over previous packaging methods.

CECO OFFERS 3 TYPES of ADJUSTABLE CARTONERS INCLUDING SEMI-AUTOMATIC and FULLY-AUTOMATIC MACHINES each in the

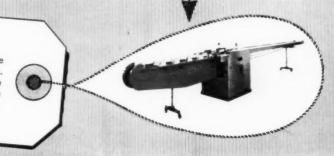
LOW PRICE RANGE

Products packaged economically on CECO Model 3901 include:

- Pharmaceuticals
- **Electric Appliances**
- Macaroni Products
- Hardware
- **Automotive Parts**
- Dry Goods
- **Building Supplies**
- **Dairy Products**
- Chemicals
- Cosmetics
- Cigars

CECO Model 3901

The most versatile and lowest cost adjustable carton glue sealer in the packaging business. Hundreds in successful operation for large and small concerns all over the world. Carton sel-up and product insertion are manual. Cartons are closed automatically.



All CECO Cartoners are adjustable quickly without special tools by unskilled help for a wide range of carton sizes. Economical for long or short runs. All models can glue-seal both ends, or seal one end and tuck the other, or tuck both ends. CECO Cartoners produce clean, square, stronger cartons at less cost and with less floor space. A CECO Cartoner generally pays back its low cost in less than a year. Let us prove it. Send for details.



Prefabricated standard components and modern assembly lines permit delivery of some standard models within two weeks.

MEMBER, PACKAGING MACHINERY MANUFACTURERS INSTITUTE

78-88 LOCUST AVENUE, BLOOMFIELD 2, N. J.

PHILADELPHIA * BOSTON * CHICAGO * DALLAS * JACKSON NEW YORK *SAN FRANCISCO *SAVANNAH * TORONTO

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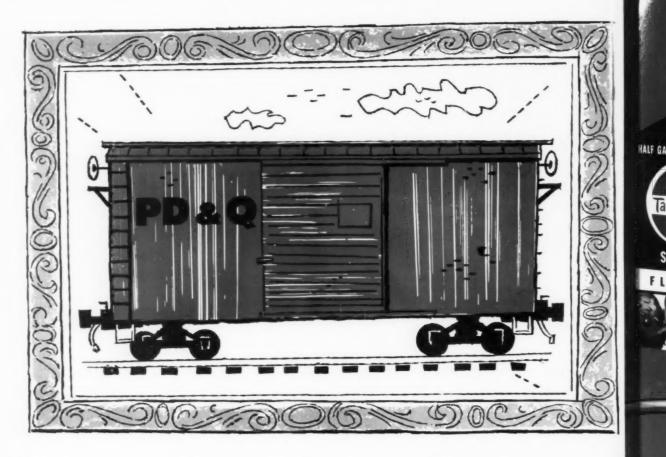
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Picture of a Crossett Customer Warehouse... or Why Hoard Board?

Customers for CROSSETT BLEACHED FOOD BOARDS can keep their storage space nearly as bare as Mother Hubbard's cupboard. At the same time they are secure in the knowledge that board will be there when they want it.

You don't need big costly inventories of board when you have machine time at the Crossett Mill reserved to produce your exact requirements and deliver them on regular schedule.

Your standing order with Crossett is as sure in all markets as if you owned the mill.

Sound interesting? We'd like very much to show you samples and talk dollars and sense savings on inventory.



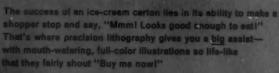
GENERAL SALES OFFICE CROSSETT ARKANSAS

BALTIMORE OFFICE J. W. Taylor, D. Q. Hodge 414 St. Paul St. DALLAS OFFICE H. E. Manner 3409 Oak Lawn Ave.

CHICAGO OFFICE L. J. Walker, D. W. Schwier 300 West Washington CINCINNATI OFFICE R. J. Lantry, J. T. Allen 3732 Lovell Avenue



an invitation to spooning!
...thanks to precision lithography by Milprint



Over fifty years of packaging experience, complete control of the job from platemaking to press run. Add the widest variety of packaging materials and printing processes available anywhere, and you'll see why it pays to call your Milprint man—first!

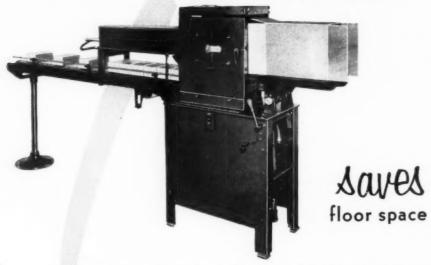
Milprint ...

is insert lithographed by Milprint, Inc. printed collophene, pliofilm, polyethylene, earns, acetale, glaceine, rilafilm, "Mylar", foils, laminatione, folding cartene, bage, lithographed displays pointed propositional meterial

eneral offices, Milwankee, Wisconsin sales offices in principal cities

MORE production-LOWER cost..

ABC SEMI-AUTOMATIC CASE PACKER

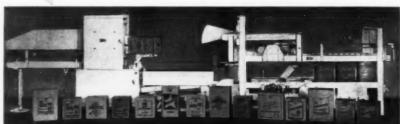


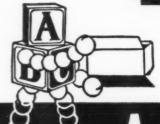
This new "Job Rated" A B C Semi-Automatic Case Packer has been endorsed by the greatest names in the industrial field throughout the nation for its cost-cutting performance.

This streamlined trouble-free packer requires the minimum amount of floor space and is furnished with either a center right or left hand discharge.

Step up your production to a higher profit level with this precision engineered packer that can be adjusted to various packing arrangements and case sizes.

PACKER connected to JUNIOR CASE SEALER





The above Semi Automatic Packer and Junior Case Sealer is one of several now being installed in Mars Inc., new plant at Chicago, Ill., where geared up production is paramount.

WRITE TODAY FOR DETAILS — FLOOR PLANS and SPECS

A-B-C PACKAGING MACHINE CORP.



show the color... make the sale

Colors show clearly, contents pour cleanly . . . when these paint pigments are packaged in bottles and caps made of BAKELITE Brand Polyethylene. No danger of breakage, contamination, or clogging . . . and never a dissatisfied customer. Squeeze bottles are still proving that a new package idea is really a new product idea. Ask your packaging supplier or write Bakelite Company, Dept. KC-06G, Division of Union Carbide Corporation, 30 East 42nd Street, New York 17, N. Y.

In Canada: Bakelite Company, Division of

In Canada: Bakelite Company, Division of Union Carbide Canada Limited, Toronto 7.

BAKELITE PLASTICS

* FADE RES * ALICALI PR * ACID AND

FADE RESISTANT

ACID AND LIME PR

UNION CARBIDE

The terms Bakelite and Union Carbide are registered trade-marks of Union Carbide Corporation.

Bottle and cap molded of BAKELITE Brand Polyethylene by Plax Corporation, Hartford, Conn. for RPM Products, Rockford, Ill.

POTDEVIN Packaging Equipment

Reduces Manufacturing Costs!

Speeds-up Production!

✔ Improves Quality!

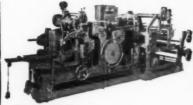


High speed production of 12"x7"x17" shopping bag or multi-wall baler bags.



CELLOPHANE BAG MACHINERY

Models for single, duplex, flat-and-square, satchel-bottom bags.





S.O.S. GROCERY BAG MACHINES

Converts rolls of Kraft or sulphite paper into finished, trade-marked bags. Adjustable for ${}^{1}\!\!\!/$ lb. to 35 lb. inclusive.



Wide range of types and sizes including one to six colors for drinking cup paper, coffee, sugar, flour bags, cellophane, glassine, parchment etc.



Automatically feeds, applies glue, dries and delivers to next station for further processing. Adjustable up to 21" wide.



FLAT & SQUARE (Tucked) PAPER BAG MACHINES

High speed production of grocery, notion, millinery, and large specialty bags. Adjustable for large range of sizes.



For any type hot or cold material. Sizes up to 54 inch widths and larger for sheet or roll coating.

ROTARY COMBINING PRESSES

High speed combining of glued mate-

rials up to $\frac{1}{2}$ " thick and 42" wide. For hand feeding flat sheets or in production line for web materials.



COLLAPSIBLE TUBE LABELERS

Applies 32 slip labels per min. to collapsible tubes. Automatically forms label and ejects label on tube. Machines for ½, ¼, ½, 1 ounce tubes.



Thermoplastic labelers in 1, 2, 3, 5 and 10 cc sizes. Hopper automatically feeds vial or ampule for labeling and coding.



PAPER BAG MACHINES

Wide range of sizes for making single or multi-wall poultry, charcoal, potato, flour sacks and shopping bags.

POTDEVIN has been designing and building superior quality equipment for the packager since 1893. Consult our engineers on any problem. No obligation. Write for detailed information on any equipment illustrated in this ad.



POTDEVIN MACHINE CO.

244 North St., Teterboro, N. J.

Designers and manufacturers of equipment for Boy Making, Printing, Coating, Laminating, Glving and Labeling.





FOOD FOR THOUGHT...

CANCO PRESSURE CANS CANS FOR FOOD PRODUCTS

The potential for "push-button" foods is enormous. Explore this opportunity now—with Canco!

Few areas of product development offer as much promise as foods in convenient pressure cans. The whipped cream and topping can, pioneered by Canco, is used daily in millions of homes. Recently introduced pressurized chocolate syrup, butterscotch, marshmallow, and fudge toppings seem headed for the same success.

Yet this field is virtually untouched and the number of potential products is enormous: salad dressing, honey, syrups, meat tenderizers, cheese spreads, seasonings and sauces to mention only a few.

Canco scientists are working diligently to meet this challenge. Drawing on the company's unsurpassed experience in food and container research, they are devising special combinations of propellants, valve and product—with exciting results!

Contact your Canco representative now to explore the possibility of packaging *your* food product in a pressure can.

AMERICAN CAN COMPANY



Top instants keep dry...fresh in Alcoa Wrap Packaging

Makers of today's fine powdered milks give their products absolute protection from moisture and damaging light. ALCOA® WRAP aluminum foil packaging seals top brands airtight, lightproof—supplies 100 per cent safeguard against activation and staleness.

Is bright ALCOA WRAP helping to spark sales? Well, just look at the best selling

brands now using it. There's your proof.

Does your packaging need improving? ALCOA teams with America's top converters to assure you the best facilities, know-how and service—all along the line. For full information, call your local ALCOA salesman, or write: ALUMINUM COMPANY OF AMERICA, 1649-L Alcoa Building, Pittsburgh 19, Pennsylvania.

You're always ahead with Alcoa . . . greatest name in aluminum





Fine Entertainment Alternate Monday Evenings



Send now for your free Fuller man.

A real live consulting adhesive engineer delivered prepaid from your nearby Fuller plant. Actually you're

buying adhesives, not premiums. The point is, when you buy from Fuller you get the free consulting services of an adhesive engineer.

He may, for example, tell you about 1303. It's the Fuller *Ice Proof Adhesive* for better labeling. You'll like the fast initial tack for either foil or paper. You'll appreciate, too, the clean running qualities—no webbing or stringing. And viscosity is just right for high speed, trouble-free, economical labeling. Fuller's 1303 is stable and, of course, tops in ice proofness.

But whatever your adhesive problem, your Fuller man can help you. Send for yours today. He's packed and ready at your nearby Fuller plant. Write or call.

H. B. Fuller Co.

255 Eagle Street., St. Paul 2, Minn. CA 2-0505



ATLANTA, GA., BUFFALO, N. Y., CHICAGO, ILL., CINCINNATI, OHIO,

DALLAS, TEX., KANSAS CITY, MO., LINDEN, N. J., LOS ANGELES, CALIF., MEMPHIS, TENN., PORTLAND, ORE., SO. SAN FRANCISCO, CALIF., ST. PAUL, MINN.



Gift liquor carton printed five colors and varnish on laminated foil, has automatic bottom, lock top, and special removable identification tag made as an integral part of the carton. Kleerwap Inc., Mundelein, Ill., for Hiram Walker, Inc.

Four colors are used to print on paraffin protected carton. Ends are sealed with heavy application of hot melt plastic adhesive which holds in moisture, keeps out air. Gaylord Container Corp.. Div. of Crown Zellerbach Corp., St. Louis, for Luigi's Pizza Frozen Foods.



Reproduction of delicate shades and tones (printed five colors) is in perfect register on carton of Bleached Kraft with Filled Kraft Back. Gaylord Container Corp., Div. of Crown Zellerbach Corp., St. Louis, for Atlas Brewing Co.



ward

Winning Packages...

PRINTED ON Champlain PRESSES

From among 8800 folding cartons submitted in the 1958 Carton Competition of the Folding Paper Box Association of America, 100 were singled out as the best of the year. In the Gravure Competition, these cartons won three of the top awards. Each was printed on a Champlain Press.

These are examples of the performance that the industry has come to expect from Champlain printing equipment. Capable of printing on a variety of materials, from heavy boxboard to lightweight cellophane, Champlain Presses meet the requirements of all types of gravure printing.

To contribute to a product's merchandising appeal "on the shelf," its package must sell its quality. Each of the cartons illustrated is an excellent example of a job well done...and a reason why a performance-proved Champlain installation is your best assurance of top performance.



Champlain Company, Inc., 88 Llewellyn Avenue, Bloomfield, N.J.
Chicago Office: 7356 N. Cicero Avenue, Chicago 46, Ill.
In Europe: Bobst-Champlain, Prilly-Lausanne, Switzerland

Paramount Labels TRIGGER the pick-it-up impulse

Something clicks — and the browsing shopper reaches for a package. When she picks it up 99% of the sales job is done. Nothing triggers that click as fast and regularly as the merchandising flair of Paramount labels. The reason is Paramount's design, color and meticulous attention to every production detail. The result is labels having maximum sales impact which produces buying action.

Whatever your labeling project, consult Paramount. Paramount's design service is free — Paramount's labels make you money.

PARAMOUNT PAPER PRODUCTS COMPANY

4401 N.23rd St., Omaha 10, Nebr. In Canada, 218 Front St. E., Toronto

Label Manufacturers — Specialty Tape Printers



NEW POSSIBILITIES IN PHARMACEUTICAL AND FOOD

PACKAGING now exist because of this new folding carton coated on the inside with ALATHON 16 polyethylene resin. A special process by Lowe Paper Company permits gluing at commercial boxboard speeds with conventional, low-cost dextrine adhesives. Coating of ALATHON insures grease resistance, even at folds, and adds a glossy, sanitary appearance. (Norforms package for The Norwich Pharmacal Co., Norwich, N Y., coated by Lowe Paper Co., Ridgefield, N. J.)

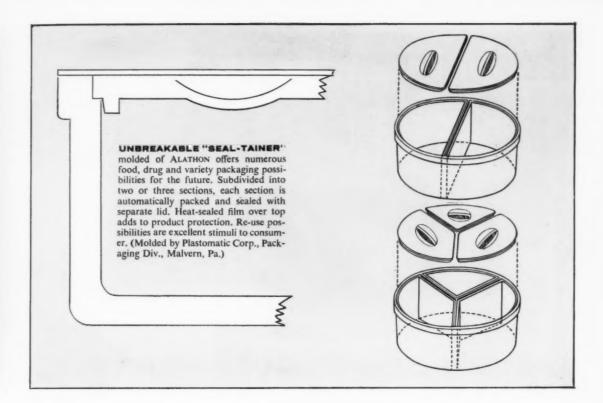


AUTOMATIC "MAKE-AND-FILL" operation makes package, fills, draws a high vacuum and seals in a procedure formerly possible only with rigid containers. For this Flex-Vac* process, cellophane is coated with ALATHON 16 to give excellent heat seals and an airtight closure. Cheese reaches customer perfectly fresh, with natural moisture and flavor locked in. (Package for Borden Co.. Plymouth, Wisc., coated and printed by Standard Packaging Corp., *Registered trademark of Standard Packaging Company Clifton, N. J.)

For a low-cost, specify a



SPRINGCALE SHEETS are pre-packaged in gusseted and heat-sealed film of ALATHON. Strong, sparkling-clear film of ALATHON 23A invites customer inspection, withstands repeated customer handling, extends shelf life. (Film extruded for Springs Cotton Mills, Inc., N. Y., N. Y., by The Dobeckmun Company, a division of the Dow Chemical Company, Cleveland, Ohio.)



sales-appealing package Du Pont ALATHON® polyethylene resin



PERFORATED POLY-CEL POUCH, consisting of cellophane coated with ALATHON 16, gives fresh shrimp a case life of 14 days. The tough, transparent package has increased sales 500% in some areas for this hard-to-handle seafood. (Package for Clayton Fulcher Seafood Co., Atlantic, N. C., by Modern Packaging Co., Mount Holly, N. J.)

POLYCHEMICALS DEPARTMENT



BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

E. I. du Pont de Nemours & Co. (Inc.), Polychemicals Dept.
Room 2511, Du Pont Building, Wilmington 98. Delaware
Please send me additional property and application data on Du Pont
ALATHON polyethylene resins.

Name

Company _____Position____

Sireei____

State_

In Canada: Du Pont Company of Canada (1956) Limited, P. O. Box 660, Montreal, Que.



CUTS CARTONING COSTS

The "Sure-Way" is the most versatile and economical automatic package caser on the market today. In some installations it has realized savings of up to 70 and 80% in man-hours alone!

MANY IMPORTANT ADVANTAGES: Even with its high capacity (up to 500 packages per minute depending on package size, type of loading case and casing pattern employed) the "Sure-Way" is near-human in gentleness to packages, over-wraps and labels.

It's compact, too – space requirements are cut as much as 80%. Other features include:

Complete safety through automatic controls • Broad flexibility of loading patterns • Handles variety of case and package sizes Loads top, end or side opening cases • Low power requirements Moderate capital investment • Extremely low maintenance costs

Typical products handled include cereals, detergents, bar soap, sugar, cake mixes, oleomargarine, cigar boxes, frozen foods, feed and seed, and pharmaceuticals.

*Exclusive Distributors: Food Machinery and Chemical Corporation

VERSATILITY

Change parts make it possible to modify the Sure-Way for handling numerous different size packages and casing patterns.

Several models are available also to meet such special applications as required for fragile prod-

ucts, unusually large shipping cases, extremely high-speeds, unique casing patterns, and top, side or end-loading cases.

Whatever your package casing problem — let an FMC representative solve it for you.

Putting Ideas to Work

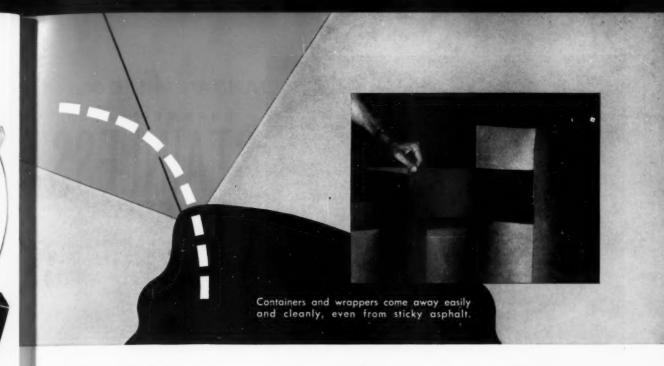


FOOD MACHINERY AND CHEMICAL CORPORATION Sure-Way Caser Equipment

General Sales Offices

FMC PACKAGING MACHINERY DIVISION: 4900 Summerdale Ave., Philadelphia, Pa.

CANNING MACHINERY DIVISION: Hoopeston, Ill. • San Jose, Calif.



Nothing Sticks to Paper

COATED WITH A SYL-OFF COATING

If you store, handle or package sticky products, you and your customer can speed up production and processing, keep quality high, and save on shipping costs too, — by specifying paper coated with one of the new Syl-off* silicone paper coatings developed by Dow Corning.

Paper and paperboard, from glassine to boxboard, coated with Syl-off, have excellent anti-adhesive characteristics. Even the gummiest of materials . . . adhesives, asphalt, candy, glue, unvulcanized rubber . . . are easily, quickly, and cleanly removed from wrappers or interleaving sheets coated with Syl-off.

Applied to paper, a Syl-off coating does not alter the stock, will not migrate or transfer, and will not contaminate packaged products.

Applied one or two sides, depending on the proposed use, Syl-off coatings are effective, permanent, and economical. What's more they're lighter in weight than conventional release coatings, which means additional savings in shipping costs.

Investigate the use of paper coated with Syl-off. Write for free samples, full information and list of suppliers.

+ We're sure there must be exceptions, but of the more than 100 materials tested to date, none has been found to stick — except a <u>silicone</u> adhesive.

DEPT. 7311

first in silicanes

Dow Corning CORPORATION

ATLANTA DOSTON CHICAGO CLEVELAND BALLAS DETROIT LOS AMBELES NEW YORK WASHINGTON, S. C.

*TH DOW CORNING CORPGRATION

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CHROME-PLATED

STAINLESS STEEL ST

ENGRAVED CYLINDERS

Packagers are discovering the great variety of packages—milk cartons to liquor labels—and products—match books to wallpaper—that can be printed by these high fidelity cylinders. Alert converters realize too, that when printing critical materials—by direct rotary or offset—they can be confident of perfect results every time with stainless steel—the material that outlasts all others and after years of use, prints beautiful packages that are fully as perfect as the very first impression!

Faultless 4-color registration at speeds up to 800 impressions a minute.

Cylinders in any size up to 36" long.

Patterned glue rollers that create extremely strong gripping surfaces.

.ake your next impression a permanent one — make it a steel engraved cylinder by Vitra-Tone, Write for details.

TRA-IONE ENGRAVING CORPORATION

345 BERGEN STREET, BROOKLYN 17, N.Y. • ULSTER 8-5712

MODERN PACKAGING

November 1958

Background

for

packaging

Notes,
quotes

and comments

Overlooked factor in the bid of aluminum for the can market is the fact that really big-volume production of can-making materials—sheet and slugs—offers one of the first opportunities for the aluminum industry to concentrate on high-speed integrated production of aluminum within very narrow specifications—at an obvious cost saving. Aluminum output usually involves relatively short runs of hundreds of combinations of alloy, temper, gauge, size and form. This, as pointed out by L. R. Payton of Reynolds Metals Co. at Packaging Institute Forum, is an important factor in the economic outlook for aluminum cans.

Look for polypropylene to make a strong entry into packaging now that recent resin-price reductions have moved it within sight of polyethylene. A second 7-cent reduction in eight months has pegged it at 49 cents per pound compared with high-density polyethylene (its nearest competitor) at 43 cents and conventional polyethylene at 35 cents.

Is hardware packaging missing the boat? Although many products in the general hardware line today are bagged or in blister or skin packs, observers at the recent National Hardware Show in New York were critical of the use of cloudy polyethylene, crudely stapled saddle labels that are overcrowded and poorly printed, and unimaginative blister packs that looked as if all were cranked out of the same mold and affixed to the same type of folded backing card. Another complaint centered on look-alike colors: repeated use of similar combinations of red, black and white for hardware, and green and yellow for garden supplies.

New can-price policies show an industry break with traditional practices. Instead of the usual flat percentage adjustment applied uniformly across the board, American Can this month arrived at price changes for each type and style of can in relation to the material and labor costs involved and depending on the varying purpose, design and production complexity of the different containers. Packagers will want to check the application of this policy to each product and package in their line.

National advertisers should take note that, for the first time, private-brand packages of individual variety chains won awards in this year's Variety Store Packaging Competition. Said the sponsor, *Variety Store Merchandiser*, "This points to the chains' own concern with better packaging, particularly where suppliers may be failing to keep abreast of the times with the packaging of their advertised brands."

Coming soon for baby: aluminum cans that a major manufacturer expects will counter any prejudice against leaving food in a metal can. Also being developed by the same company is a hot-process can that does not require a can opener or key. Still to be perfected is an adequate seal.

Textile labeling now comes under tighter Government regulations as a result of Congressional action. Sixteen months from now the Federal Trade Commission will require manufacturers and retailers to label fibre content when cotton, silk or man-made fibres constitute 5% or more of weight in many items, including such frequently packaged goods as wearing apparel, draperies and furnishings. Textiles that don't contain fur fibres may not carry the names of fur-bearing animals and products processed or manufactured abroad must identify the country of origin.

Food-additive amendments to the Food & Drug Act are expected to raise questions in the minds of packagers because the new law, though aimed at foods, covers containers if some chemical in them migrates to the food. Although Food & Drug Administration Commissioner George Larrick doubts packagers will face new com- [Continued on page 40]

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MIXED CEREAL

for Babies

Pre-Cooked Vitamin Enriched



BRITE-PAK ENAMEL COAT

for healthier cereal sales!

A full-time salesman for cereal or any other dry food product is actually at work, right on the store shelf, if it is packaged in economical Brite-Pak Enamel Coat . . .

... West Virginia's new bleached board.

You can see the reason.

Brite-Pak has all the advantages of bleached board but also provides a *gleaming* coated surface that reproduces full color process printing far more brilliantly and sharply than yesterday's dull, dry food carton. The Brite-Pak package actually *invites* a purchase.

And Brite-Pak is *clean*, white and sanitary on both sides and all the way through! The Brite-Pak package, therefore, invites re-purchases.

Brite-Pak Enamel Coat is *inexpensive*, too.

Write or call for full information on all grades.

WEST VIRGINIA PULP AND PAPER COMPANY
Bleached Board Division 230 Park Avenue, New York 17



plications (because container contamination has always been proscribed), he has designated *Arthur A. Checchi*, Assistant to the Deputy Commissioner, Room 3359, Health, Education & Welfare Bldg. Washington 25, D. C., to handle all inquiries,

Watch for a completely new and startling package concept by Philip Morris Co. This pioneer in the flip-top hard pack for Marlboro cigarettes not only has revived the soft pack, but reports 25 projects under way for changes in packaging to meet the constantly shifting marketing picture.

Early flood of liquor decanters for gifts and other holiday purposes indicates this season may provide a critical test of their sales appeal in the face of a trend toward removable and year-round gift packaging. Insiders believe the gift-decanter business may eventually fall to the smaller independents rather than the big distillers because of cost and distribution problems.

Significant sign of the new status of water-soluble films in packaging is the 15 to 20% price reduction for cold-water-soluble polyvinyl alcohol announced by at least one supplier, the Colton Chemical Co. (For a new packaging application of a water-soluble film, see "Disappearing Dye Pouch," Modern Packaging, Oct., 1958, p. 109.)

Convenience built into packaged foods is a minor factor in the steady rise of food prices since 1940, according to economists of the U. S. Agricultural Marketing Service. A pilot study finds housewives are paying out only 61 cents more per \$100 worth of groceries to cover the cost of "built-in maid service." Some "serviced" foods, the study shows, are less expensive than non-serviced items of equal quantity or quality. Over-all, 52 "serviced" foods cost only 38 cents more than 52 non-serviced.

Contrary to the trend toward marketing of produce in fresh, packaged form, potatoes are gaining faster in processed form. Packaged potatoes—canned, frozen, dehydrated and processed as chips—accounted for more than one-fifth of all potatoes consumed in the U. S. last year, according to the Wall Street Journal. Their consumption has doubled since 1949 and grown 10 times since 1940, while raw-potato sales since 1940 have fallen one-third.

Appeal to the sense of touch as an added quality of polyethylene film is substantiated by recent survey on pre-packaged shirts. About 91% of shoppers preferred polyethylene film for this package and it made little difference to them whether it was cloudy or clear. Asked to explain their preference, they said: "It's softer and more pliable" (60.4%); "it can be re-used" (51.6%); "it's stronger" (39.3%); "it will not crack or tear" (38.7%). Question: If polyethylene film becomes so improved that it no longer has the "soft feel," will some of its appeal be lost?

New field for collapsible tubes is suggested if new cream nail-polish remover called "Heluan," introduced from England, catches on with American women. In cream form, squeezed from purse-size metal tube, new product—among other cited advantages—is aimed to overcome the hazard of liquid acetone removers in bottles, which if spilled may ruin clothing and furniture.

Military packaging, dollarwise, is smaller than most people think. John R. Townsend, special assistant to the Assistant Secretary of Defense, recently estimated the department's annual bill for packaging at \$150 million. That's less than 1% of the nation's total packaging expenditure. Industry's three biggest contributions to military-packaging success, according to Townsend, have been: (1) flexible barrier materials such as polyethylene and polyester; (2) fibreboard containers to replace wood, and (3) vapor-phase inhibitors to stop corrosion.

Background

for

packaging

[Continued from page 37]



For Sandwich Spreads



For Lamps



For Glassware



For Fruits and Vegetables

packaging

Keyes molded pulp

- * Custom fitted protection
- * Less bulk
- **★ Lower cost**



Modern contour packaging with molded pulp is being increasingly recognized as the most effective method of protecting a wide variety of items. The most delicate merchandise can be shipped with greater safety when shielded by these form-fitting pulp shapes. In addition to savings from reduced breakage, nested contour packaging material is well suited to modern automation, saves valuable storage

and shipping space and is usually less costly.

Years of experience in the field of molded pulp coupled with modern plants and manufacturing skills, are available at Keyes to design and produce a more efficient, more economical packing for your products. Our Product Development Division will be glad to supply further information and cooperate with you in developing contour packaging for your products.

Product Development Division, Dept. 42

KEYES FIBRE COMPANY

WATERVILLE, MAINE

New Youngstown facilities will assure

TIN PLATE FOR PACKAGING

in his day

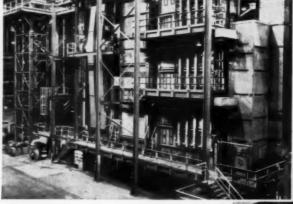
Tin plate—in increasing quantity and quality—will be as essential to the packaging of products in his day as it was in Dad's time.

Continuing advancements in facilities, research, and techniques make certain that when he and millions of others are ready for such products . . . Youngstown Tin Plate will help package them.

Photos below show scenes in Youngstown's new, ultra-modern No. 2 Tin Mill at Indiana Harbor. This expansion program will approximately double our capacity to supply canmakers the finest tin plate available anywhere.



Here coils of Youngstown cold reduced and annealed steel are welded end to end for subsequent tin plating to produce high quality tin plate.



This ultra-modern, high-speed, continuous annealing unit processes cold rolled strip prior to its being electrolytically coated with tin.

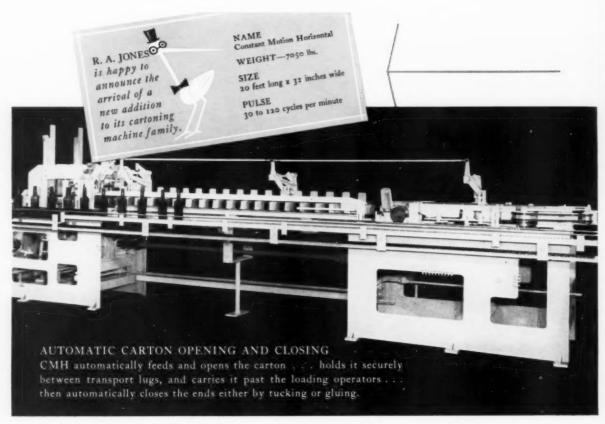
Youngstown

SHEET AND TUBE COMPANY

Youngstown, Ohio

Manufacturers of Carbon, Alloy and Yoloy Steel





the new Jones CMH Semi-Automatic Horizontal cartoner

The new Jones CMH cartoner is designed for loading of products into cartons horizontally—a necessity particularly with heavy, bulky objects and products that cannot be loaded vertically. Note operation and construction features below. For additional information, write us outlining your requirements.

RUGGED CONSTRUCTION—CMH is built with the heavy, rugged construction features for which Jones Cartoners are noted.

POSITIVE CARTON FEEDING—The same positive, reliable carton feeding and opening principle, so successful on the Jones fully automatic machines, has been built into the new CMH.

SPEED—CMH accommodates either a tuck or a glued-end carton at speeds up to 120 cartons per minute. Can also be adapted for thermosealing a cold wax carton for the frozen food industry.

CHANGEOVER—Quick adjustability within the wide range of the CMH allows rapid changeover from one size carton to another.



LOADING—Operator's sole function is to slide the product into the end of the carton ... all other operations completely automatic. Loading area can be designed to accommodate one or several operators.

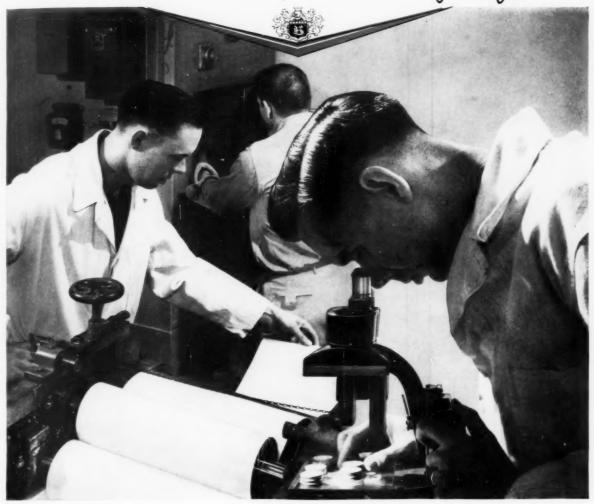
R. A. JONES & COMPANY, INC.
Cartoning Madunes - Case Packers

P. O. BOX 485, CINCINNATI 1, OHIO

BRANCH OFFICES

Vero York Chicago St. Louis Los Angeles

With Bernardin · Quality is a SERIES of satisfactions



BEAUTIFUL-BUT TOUGH

After we have applied coating to the flat metal sheet it is slit, blanked, threaded, and lined, man and machine-handled until it becomes a closure. That's only a start. Now, it must speed through sealing lines, shipping, warehousing, retailing, and still attract the eye and the hand of the consumer.

Pictured here, experimental coatings of different formulas go through tests. In the foreground, experimental and production coatings are compared for abrasion resistance; for resistance to stress and fracture when flat metal is formed into caps; for color, lustre, toughness to survive still beautiful.

Thus another part of our Closure production comes under constant scrutiny to insure and improve, if possible, all of the *series* of functions of our Plastic or Metal Closures.

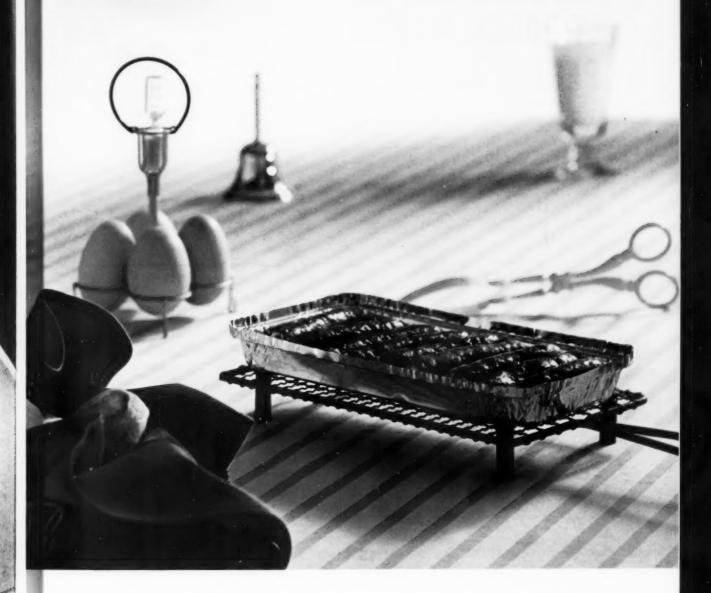
QUALITY METAL AND PLASTIC CLOSURES BY





PLAIN, PILFERPROOF OR SECURO

TETAL CLOSURES LTO WEST BROMWICH . STAFFS





Brisk Breakfast . . . Your product is paced to meet the time demands of today's hurry-up living when it's packed in a rigid aluminum foil container This handy foil container goes right to the stove and in minutes comes to the table with a bright, sizzling good morning meal We've created more containers than any other manufacturer. This wealth of experience is available to you. Send us an outline of your current package requirements. We'll show you the advantages of rigid aluminum foil.

EKCO-ALCOA CONTAINERS INC.

WHEELING, ILLINOIS . WHITTIER, CALIFORNIA . LONG ISLAND CITY, NEW YORK

EKCO is the registered trademark of Ekco Products Company, ALCOA is the registered trademark of Aluminum Company of America.
The corporate name and combination mark; EKCO-ALCOA, is used under license to the manufacturer by each of these companies.

The LONG and SHORT of POUCH MAKING PERFORMANCE



7-24
POUCH MAKING
MACHINE



HANDLES:

Coated Papers

Scrim

Scrim-Backed Foils

Poly-Cellophane Laminates

Poly-Lined Foils

... or

GREAT STRENGTH for staying power GREAT VERSATILITY for savings power

Any Suitable Heat-Sealing Material, Including Boilable Types

Here are only a few of the Model 7-24's many performance features: Adjustable speeds of 56 to 90 pouches one-up; or up to 180 pouches per minute, two-up. Sizes range from a minimum of $1\frac{1}{2}$ " x $3\frac{1}{2}$ ", to a maximum of 12" x 20" (12" x 80" maximum with skip cut attachment). Note: For unusually large width and length requirements, inquire about the Simplex 8-7, a larger, heavier, wider model of this same basic machine.

Get all the facts, today.

A wide variety of adjustments or attachments are available on this versatile machine to cover every need. Among these are:

- · Water cooler for seals on heavier material
- · Two rolls face to face, or one roll folded over
- Two-up from one roll by folding over both sides
- Top only, or top and bottom heat on side sealers
- · Imprinters, coders, daters easily attached
- Electric eye print registration control

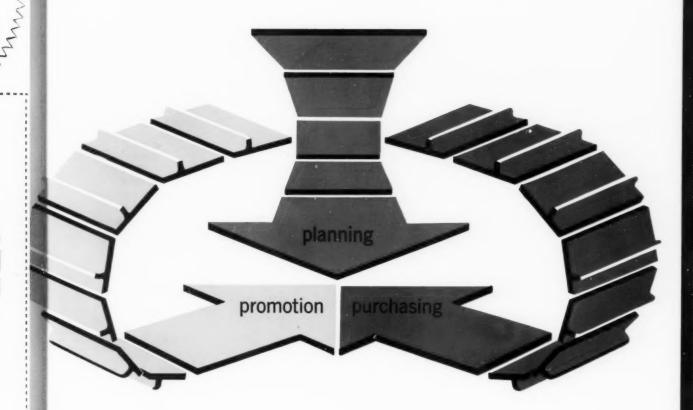
Putting Ideas to Work



FOOD MACHINERY AND CHEMICAL CORPORATION FMC Packaging Machinery Division

534-23rd AVENUE, OAKLAND 6, CALIFORNIA

Foreign Sales: FMC International Corp., P.O. Box 1178, San Jose, Calif., U.S.A. (Cable Address: FOODMACHIN)



Packaging team at Caterpillar Tractor Co.

A manufacturer of tractors, graders, diesel engines and earthmoving equipment has his own specialized and intricate packaging problems. At Caterpillar, Parts Planning, Sales Promotion and Purchasing Departments jointly determine packaging for thousands of separate parts. Objectives: protection; convenience; economy; merchandising; compact stocking; rapid, dependable identification.

Federal Paper Board has worked closely with Caterpillar in developing and manufacturing its folding box packaging, as it has with many other makers of industrial products. If you sell original equipment, materials or component parts, this experience can help you. A Federal man will be glad to call for an exploratory talk.

FEDERAL PAPER BOARD COMPANY, INC.

SEVENTEEN BOARD MILLS AND CARTON PLANTS FROM THE ATLANTIC SEABOARD TO THE MISSISSIPPI RIVER EXECUTIVE OFFICES: BOGOTA, NEW JERSEY

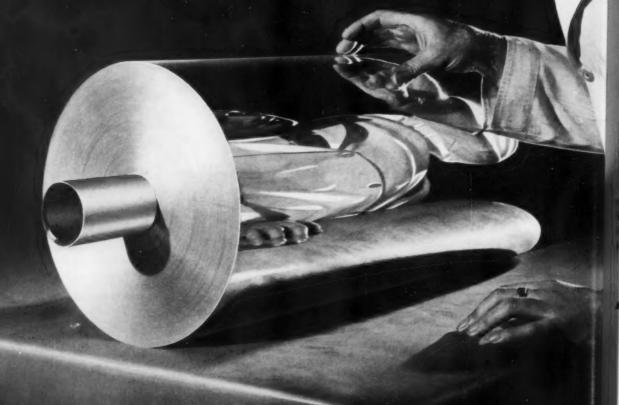
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How would you card this?

You make cap guns in many sizes and shapes. You card them all. And you want the fastest, most secure and lowest cost carding method for them.

Which would be best-elastic bands, lips, wires or staples?

This was an actual case where tests proved that Bostitch stapling is 50% aster than the next fastest method. ven inexperienced stapling operators it top speed in almost no time.

Each girl uses two Bostitch foot-operited machines placed side by side. Both ands are free to locate the gun exactly position. On one machine she staples he gun barrel to the card. She switches

to the other and positions two staples around the trigger guard.

Just three staples—and the gun, regardless of size or shape, is securely fastened to the card. Staples hold without hiding the product and without interfering with the card's display message. Neat staples help attract buyers.

Can stapling cut your carding costs and increase your card's merchandising effectiveness? One of the 400 Bostitch Economy Men, who work out of 123 U. S. and Canadian cities, will help you work out the figures. He's listed under "Bostitch" in your phone book. Or you can send the coupon.



This is the way one gun looks on its card. Notice how the staples afford a secure grip without hiding product or merchandising message.

asten it better and faster with



Please send FREE infor carding.	mation on ways stapling will improve my
I want to card	
	(Product)
I now card with	
	(Fastening Method)
Name	
Company	
Address	
City	Zone State

ND tion)



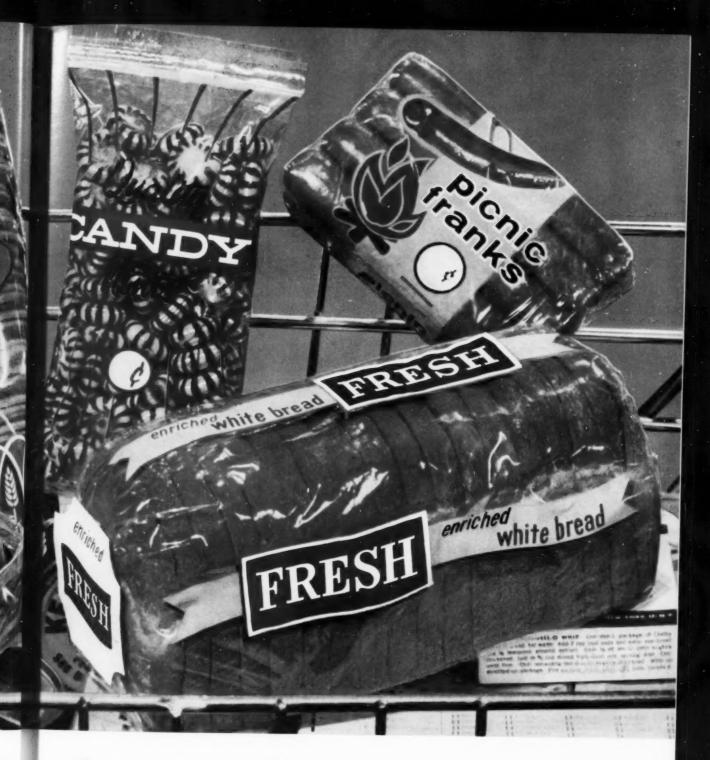
COLORFUL SPARKLE...with the basic

Cellophane gives sparkling clarity, the right protection... makes a product its own best salesman

People like to see what they buy. That's why it's smart to start with transparency in package planning. Crystal-clear Du Pont cellophane lets your product's color, shape and texture sell for itself... takes on flattering colors for package designs... gives you excellent vapor

and moisture protection . . . high-speed production. This balance of properties makes cellophane the most efficient packaging material you can use.

New, extra-brilliant, extra-protective "K" cellophanes are the culmination of 34 years of transparent packaging experience at Du Pont. Let this experience help you to a better package. See your Du Pont Representative or, for printed films and bags, your Du Pont Authorized Converter. E. I. du Pont de Nemours & Co. (Inc.), Film Dept., Wilmington 98, Delaware.



sales power of pure transparency



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THIS IS THE HOERNER SPECIALIST FOR PACKAGING STICKY THINGS

Take raw rubber, for example. It sticks to things doesn't take to rubber at all and is particularly tainers. But Hoerner experts developed a corru-gooey, don't be stuck with unnecessary handling

with irritating tenacity. Including shipping con- easy to empty. If your product can be called gated box with a special plastic coating inside. It costs. Call the Hoerner office or plant nearest you.



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TREATED
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MOST GRADES OF MOISTURE PROOF CELLOPHANES

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POLYSTYRENE

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Over 2 full years of commercial testing have gone into the proving of remarkably versatile Flexotuf. These new inks combine features never before present in the ordinary run of Flexo inks. They offer almost unbelievable block and moisture resistance, as well as exceptional gloss; rich colors never before possible give a new dimension to "eye appeal." Many of our customers report that with these new inks they turned out the finest jobs ever produced in their plants. What's more, Flexotuf replaces the several inks previously needed for this type of package printing, hence, tie up less money in inventories. See for yourself why Flexotuf is revolutionary! Call IPI now!

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INTERCHEMICAL PRINTING IN

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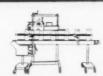
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HEAT SEALERS



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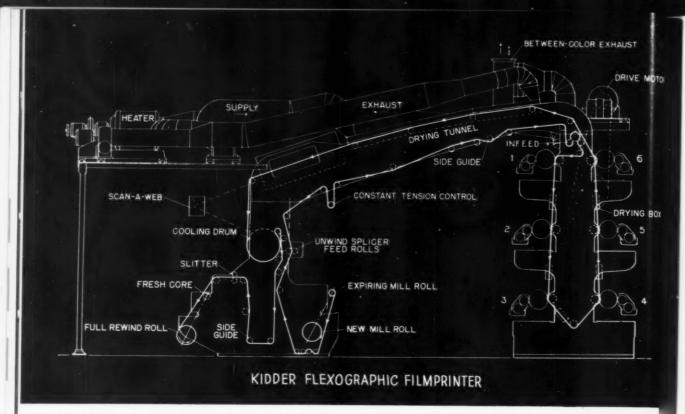




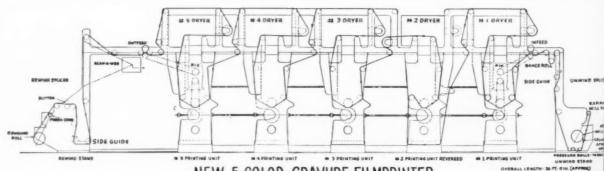








Kidder has always made fine flexoprinters, letterpresses, heavy duty gravure presses, slitters and rewinders



NEW 5-COLOR GRAVURE FILMPRINTER

Now add a gravure filmprinter

The new Kidder Press designed specifically to print film by the gravure process is now being built — and it's the world's most advanced Gravure Press!

The new Kidder Gravure Filmprinter will have all the characteristics that converters now praise in the Kidder Flexo Filmprinter — uniformly high quality of product, non-stop roll-after-roll operation, shipment of printed material direct from the rewind end of the press.

And as with all other Kidder Presses, Kidder's Performance Engineers will personally guarantee the Gravure Filmprinter's superior operation. They will check installation in your plant, tune the press to top running order, and educate your pressmen to get the finest production possible. Only Kidder has such an expert service as this.

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"Ship same day

... thanks to convenient label-imprinting by Tickometer"



"We put up a lot of private brands, get orders from a half-gross up to a thousand dozen. Every item has to be coded or marked for weight and other factors. We draw from stock the small packages or labels, imprint code or weight for the exact quantity needed, and proceed to pack the orders... The Tickometer helps us to ship most orders the same day..." from an actual case study.

With a Tickometer, you can imprint packages and labels with codes, colors, weights, sizes, dates, lot numbers, etc.— at speeds up to 1,000 *a minute*. And avoid delay in filling orders, cut package and label inventories and waste, and show considerable reductions in printing bills.

The Tickometer also counts accurately—gives you a check on production and shipments. It can be set

for a predetermined amount, records partial amounts or totals, and can be used for consecutive numbering.

• It can also be used to mark, stamp, endorse, date, cancel and count forms, coupons, tags, checks, tickets, cards—save time and work, get totals earlier.

• The Tickometer prints with exact register, on an impression surface 2% 16 by 7% inches, handles most paper weights and finishes, light card stock, plastics and foils. Takes sizes up to 15 by 15 inches, depending on model. Feeds and stacks automatically, is easy to run and use. Can be bought or rented. And you can get PB service from 302 points, coast to coast.

 Call the nearest Pitney-Bowes office for a demonstration. Or send coupon for free illustrated booklet and case studies.



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produced in St. Marys, Georgia,
in an exclusive-process plant,
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May we send you samples

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that combines perfect bead with strong resistance to hot or cold liquids.



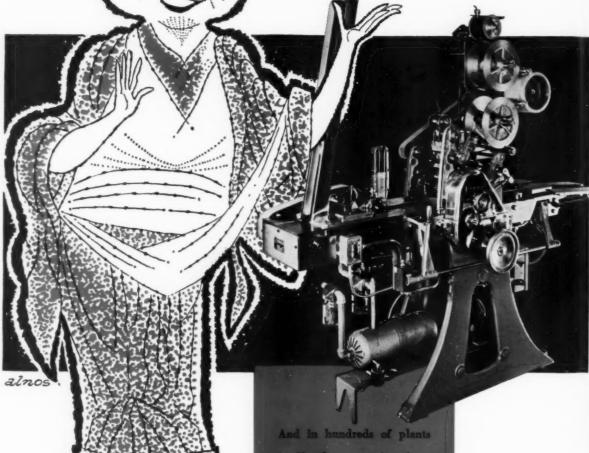
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Translation: "For fast, money-saving overwrapping, there's nothing like our Scandia machine."



And in hundreds of plants in 49 other countries—from Peru to the Philippines, from Southern Rhodesia to Thailand — Scandia's machines evoke the same praise.

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BETTER









We'll gladly send more information and names of suppliers offering paper products with the advantages described above. Fill out and mail coupon today. E. I. du Pont de Nemours & Co. (Inc.), Grasselli Chemicals Dept., Room N-2533, Wilmington 98, Delaware.



BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

Which of these advantages can you use in the paper products you buy?

RELEASE

Only a small amount of Du Pont Quilon® chrome complex is needed to give paper excellent release and water resistance. Frozen foods, meat, baked goods won't stick to treated paper. And paper containers stay durable . . . even when exposed to water and humidity

SLIP RESISTANCE

Shipping containers and bags stack solidly, safely, when treated with Du Pont Ludox® colloidal silica. Coatings based on "Ludox" effectively increase surface friction, add "grip" to paper surfaces, provide excellent slip resistance to multi-wall paper bags and corrugated cartons,

WATER RESISTANCE

Paperboard shipping containers withstand rain, resist moisture, when they're bonded with Du Pont Weatherproof Adhesives. These inexpensive Du Pont adhesives make tough paper-to-paper bonds . . . add extra strength and durability to containers. Many firms use them, even when weatherproofing is not a requirement.

FLAME RETARDANCE

Du Pont "X-12" flame retardant adds safety to many kinds of household paper items including party decorations, tablecloths, draperies and crepe paper. It's easy to use, can be applied right in the dye bath without altering the shade produced . . . often increases lightfastness!

E. I. du Pont de Nemours & C Grasselli Chemicals Departme Wilmington 98, Delaware	
	ormation and names of suppliers of paper products esistance water resistance flame retardance
Name	Title
Firm	
Address	
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... a truly modern

ink by



...for modern
package
printing

GPI, originator of Hydry, is the recognized leader in moisture-set ink manufacture and service. Continuous research in GPI laboratories has improved Hydry's press performance . . . has made it first choice for many paper and board applications.

Is high speed important in your paper and board printing operation?

CHOOSE HYDRY MOISTURE-SET INK.

Want colorful, clean-cut impressions that resist rubbing and scuffing?

CHOOSE HYDRY AGAIN!

Need an ink that's odorless . . . bleed-resistant in wax and water?

HYDRY IS FIRST CHOICE!

Introduced over 15 years ago, HYDRY became an immediate hit because of its fast-setting, color-bright, economical characteristics. Now, with a brighter, glossier finish and greater press stability, you get more advantages with HYDRY than ever before.

HYDRY eliminates offsetting and sticking in the pile . . . provides more freedom from caking and piling on plates and rollers. It costs less to use since it won't skin in can or fountain . . . goes further on the press



too. Give HYDRY a try . . . see why over \$10-billion worth of paper and board packages have been produced with this versatile letterpress ink. GPI's vast experience with moisture-set ink assures its best application to your needs.



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*Rult: 30% Reduction in Packaging Labor Cost for this Inland Customer

• This two-piece inner packing, with its complicated tabs and folds, required too much costly assembly time. That's the problem Inland package engineers solved with their new, one-piece design . . . cut packaging labor cost 30% and, at the same time, provided complete protection for the products of this well-known pump manufacturer. (Name on request.)

Your Inland package engineer is a corrugated shipping container specialist. When your product packaging is entrusted to him, you can be sure you are getting the benefit of every possible packaging economy applicable to your product.

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Send for this booklet fully illustrating Inland's services, facilities and products.



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Other Sales Offices in Principal Cities . Consult Your Telephone Directory

How J. L. CLARK

helped Scotch Brand Cellophane Tape become a household word with an easy-to-use, safe dispenser



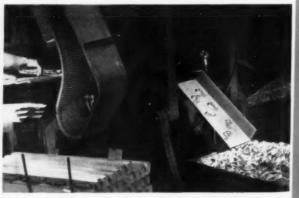
In the early '30's, Minnesota Mining & Manufacturing Company introduced its rolls of now famous Scotch Brand Cellophane Tape. Foreseeing a brilliant future for the product if it could be made handy to use, the company originated the dispenser idea . . . called in J. L. Clark to make it practical, safe, inexpensive, and provide instant brand recognition."



The development of special structures was a Clark specialty . . . still is. Clark engineers created and perfected the mechanical design of the special dispenser structure; provided for safe rolled-edges and clean tape tear-off in a multiple-stage manufacturing process unlike anything previously known.



Faithful lithographic reproduction of the Scotch Brand plaid, now so well known to America, is the subject of rigid quality control methods at Clark, With each new dispenser for specialized tapes, 3M and Clark collaborate fully in developing new artwork, precision plates and exact colors which will insure the distinctive family resemblance of Scotch Brand packages.



High speed manufacturing processes, using Clark-designed and Clark-built dies, produce millions of dispensers held to close tolerances without marring of decoration. This is the kind of creative packaging that has helped Scotch Brand become a household word . . . the kind of work we would like to do for you.

*Upper left photograph, left to right, C. O. Moosbrugger, Advertising Director, Minnesota Mining and Manufacturing Co., J. G. Martin, J. L. Clark Representative, R. L. Sheppard, Sales Manager Retail Tape Division and C. B. Sampair, Executive Vice President, Minnesota Mining and Manufacturing Co.



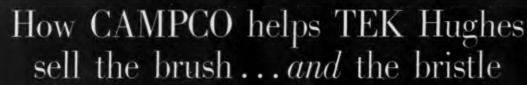
a businessman's guide to container design A booklet you'll want to see and study, one that can be the important first step toward putting your product front-row-center on any shelf! It discusses Design Impact, Structures, Psychology of Color and Merchandising opportunities. Send for a copy—foday! J. L. CLARK

J. L. Clark Manufacturing Co., Rockford, III.; Liberty Division Plant and Sales, Lancaster, Pa.; New York Sales Office, Chrysler Bldg., New York 17



0

CLARK containers put your products where you want them!





PLAXALL INC. capitalizes on CAMPCO butyrate for unique packaging technique

EXTREME COMPATIBILITY of Campco butyrate means package won't discolor products made of other plastic materials. Flexibility permits pattern embossing, deep-shoulder hole-punching. Note excellent optical clarity of the package.

The package that invites product inspection sells best—particularly if it also assures immaculate display. Example: Tek Hughes' (a Johnson & Johnson Company) new hair brush line. Bidding for buying action, each brush displays nicely on counters, in merchandise racks, or on walls, yet permits full slide-out examination by the buyer.

Thanks to uniformity of Campco butyrate which, though essentially rigid, may be flexed under pressure, the package is produced in an automatic continuous process. The contour dome is pressure formed at speeds of up to 90 per minute. It is then fed into the special "Slideplax" machine which turns the edges to produce the slide tracks.

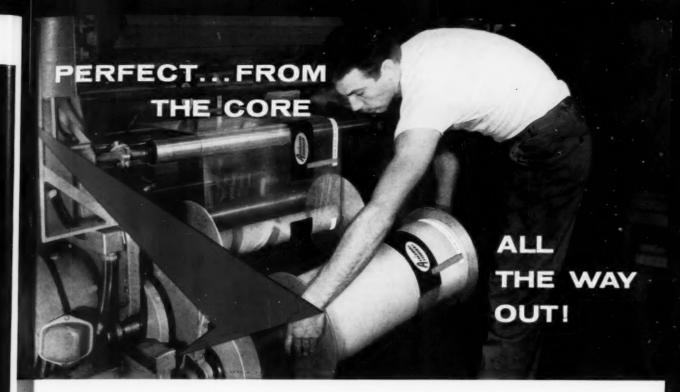
Because of the extreme pliability of Campco butyrate, these packages can be deep-formed, patterned, and hole punched without shattering, cracking or flaking. Next time you want finger-tip sales appeal for your product, remember, it pays to use Campco sheet and film. Write today for details. While we do no custom fabricating we can recommend a source of fabrication in your area and can supply product design help.

CAMPCO sheet and film

a division of Chicago Molded Products Corp.

2718 Normandy Avenue, Chicago 35, Illinois

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BUTYRATE • COPOLYMER STYRENE



BBD Speed-E-Brite High-Gloss Flexographic Ink

prints roll after roll of polyethylene without blocking, without offsetting

COMPATIBLE with NATURAL or **BUNA "N" RUBBER**

You can use SPEED-E-BRITE with either natural or synthetic (Buna "N") rubber plates and rollers at printing speeds to 250 fpm. No need to switch inks for different rubbers nor to re-make plates for re-runs. At printing speeds over 250 fpm the proper solvent mixture requires use of Buna "N" plates and rollers only.

You get higher yield from your polyethylene film * . . . less waste when you print with SPEED-E-BRITE ink. That's because SPEED-E-BRITE gives you greater freedom from blocking and offsetting. SPEED-E-BRITE is a low-viscosity ink with exceptionally high color-strength . . . so you carry a thinner film of ink and still get the color brilliance modern package printing demands. You'll like the truly glossy effects SPEED-E-BRITE produces on polyethylene too.

SPEED-E-BRITE gives you more value in other ways. With the addition of recommended solvents, you can use SPEED-E-BRITE over a wide range of speeds without loss of color strength or running properties. And it's highly waterresistant, too-withstands prolonged wet refrigeration. Choose SPEED-E-BRITE for printing polyethylene and most other popular packaging films . . . on either high or low-speed presses. You'll like this really modern ink. Try SPEED-E-BRITE soon.

Want sample prints and FREE SPEED-E-BRITE Technical Data Sheet? Contact your nearest BBD office or write Bensing Bros. and Deeney, 3301 Hunting Park Ave., Philadelphia 29, Pa.





A subsidiary of Sun Chemical Corporation

PHILADELPHIA · CHICAGO · SAN LEANDRO, CAL. · CAMBRIDGE, MASS. · MONROE, LA. · TORONTO

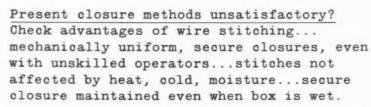


CLOSURE IDEA BULLETIN



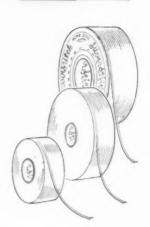
For users of Fibreboard Boxes







Arcuate stitching method means even greater savings...gives stitches greater column strength which means greater driving strength ...allows equally strong stitches from lighter gauge of wire...switching from .020 to .017 gauge saves $12\frac{1}{2}\%$ on wire costs. Arcuate Folder answers questions about this method.



Wire check points...if it has electrogalvanized, rust resistant finish...close size tolerance and smoothness to protect vital machine parts...is level wound to help eliminate tangles and snags...it's excellent wire. Acme Steel Silverstitch Stitching Wire checks out on all these points.

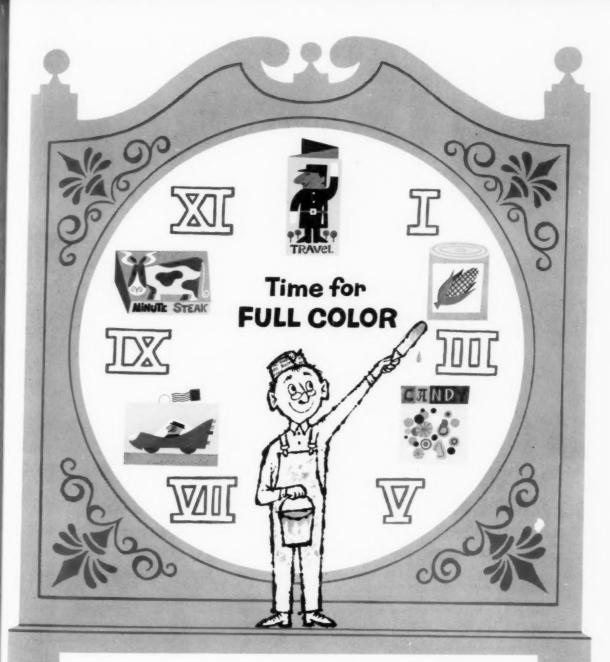
Stitcher parts orders promptly filled from nationwide network of Acme Steel warehouses and service offices...only genuine Acme Steel replacement parts reflect same high quality and craftsmanship as original parts... can be depended upon to give same long, satisfactory service. AD-154 gives tips on maintenance and repair.

Your Acme Idea Man is available as a consultant on closure problems. His intensive training, backed by Acme Steel Company's 75 years' experience with closure problems, can be of real time and material-saving value to you. Call him now at the nearest

Acme Steel Office, or write to Dept. MDW-118, Acme Steel Products Division, Acme Steel Company, Chicago 27, Ill., for information on the complete line of Acme Steel box, book and metal stitchers.



SALES



For today's highly competitive markets, it's time to give your packages and printed material the extra sales appeal of Crocker full color lithography.



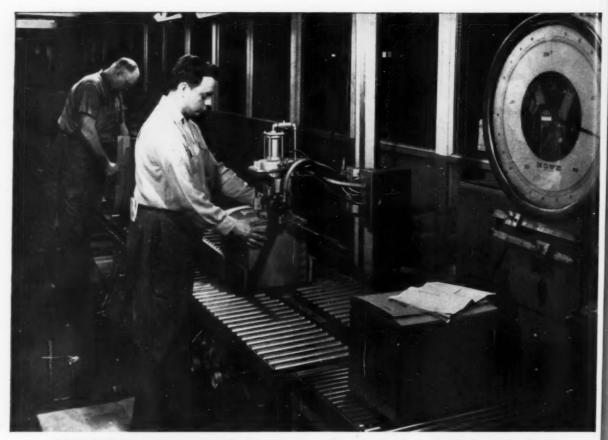
 $PACKAGING \cdot LABELS \cdot FOLDING \ CARTONS \cdot SALES \ LITERATURE \cdot ADVERTISING \ POST \ CARDS$

H. S. CROCKER CO., INC.

PLANTS: SAN BRUNO, CALIF. BALTIMORE, MD. SALES OFFICES: 720 MISSION, SAN FRANCISCO 1151 W. 6th, LOS ANGELES 350 N. CLARK, CHICAGO

23 E. 26TH. NEW YORK - 16801 WYOMING, DETROIT ST. PAUL & 24TH, BALTIMORE, MD. - 5673 OGONTZ, PHILA 1925 S.W. 13TH, PORTLAND, ORE.

322 COLMAN BLDG., SEATTLE, WASH, JACKSON, MISS • WINTER HAVEN, FLA MINNEAPOLIS, MINN. • OMAHA, NEBR



INTERNATIONAL DUAL STAPLER REPLACES METAL BANDING

(1) 75% more cartons closed with less labor cost.

(2) Material costs reduced from 6¢ to 1¢ per unit.

Parker Fittings & Hose Division, Parker-Hannifin Corp., Cleveland, Ohio, packages tube and hose fittings in overlap cartons ranging from 8" x 8" x 10" to 12" x 12" x 20" sizes. Until recently, these cartons were closed with metal banding. An International Dual Stapler was installed whereby tops and bottoms of filled cartons are simultaneously stapled from the outside. Here are the results:

- Staples cost 1¢ per carton—Metal Banding costs Carton contents removed by opening top flaps only. 6¢ per carton. (Material cost saving of 5¢ per carton.)
- Metal Banding production rate, 114 cartons per day-Stapled cartons production rate, 200 cartons per day (75% carton production increase with less labor cost).
- Stapled cartons maintain rigidity when empty or full.
- Stapled cartons are reusable for storage or reshipment by restapling top flaps only.
- Parker expects to amortize the stapling machine installation in just seven (7) months with their current production rate.
- Model Dual Stapler is a workhorse, capable of stapling cartons at the rate of 500 cartons per hour.

International Staplers Can SAVE YOU MONEY!

Gold Crown STANLES SEAL SECURE

Write for literature on International Dual Staplers.

INTERNATIONAL STAPLE & MACHINE COMPANY

ORIGINATORS OF CARTON CLOSING STAPLERS

BOO E. HERRIN STREET

HERRIN, ILLINOIS

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AN

NOVEM



A CREATIVE PACKAGING DEVELOPMENT ANOTHER

This unit is more than meets the eye. On the outside, it's just what it appears to be-a corrugated box. But Inside - where you can't see it - is a Kflex liner, made from one of the new plastic films that are working wonders in the field of packaging.

And inside this impermeable, flexible, abrasion-resistant liner is 5 gallons of cooking oil! It's come a long ways, and it's been delivered safe, sound and ready for pouring from a collapsible polyethylene spout that can be resealed if only part of the contents are used.

Think of what this means in terms of convenience and money saved-not just to this customer but to anyone with a similar packaging task.

- Cartons with Kflex liners are supplied knocked-down. Storage space needs are cut to a fraction.
 Kflex liners can be supplied in a variety of films suitable for almost every type of hard-to-handle liquid and semi-liquid.
- Expensive glass and metal containers are things of the past.
- Lightweight corrugated containers bring shipping costs way down.
- When emptied, these units don't have to be returned or trucked away. They're as easily disposed of as yesterday's newspaper.

We at Kuss are specialists in functional, economical packaging. We've tackled some mighty tough prob-lems for a wide variety of industries and come up with the right answers.

And we're ready at a minute's notice to go to work for you. Write us for full information.

R. L. KUSS & CO., INC. . FINDLAY, OHIO

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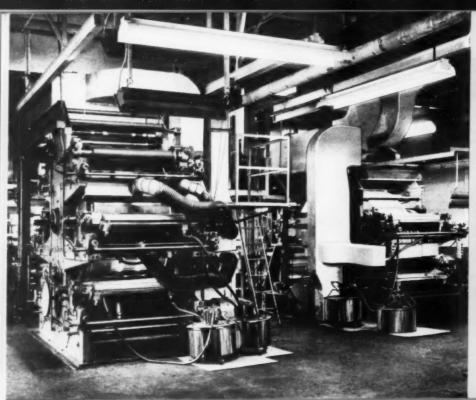
better

15-pour Hi-D" pound o ethylen by 3%.

Bags w

polyeth

NOVEMI



At Continental Can Company, we take great pride in the quality of our print-ing on flexible materials and firmly believe our finest results are obtained



on Hudson Sharp single impression cylinder presser

"Multi-color designs and increase demands for process screen prints with true reproduction fidelity. polyethylene and other extensish materials for use in automatic pa-aging makes it doubly important the color register be accurate and pri repeats precise.

"Hudson Sharp presses give us su performance and many other adva tages. Their heavy construction a many important operating featur permit 'round-the-clock producti permit Tound-the-clock products faster print speeds, uniform web of trol and minimum downtime for j change-over...all of which add up higher quality printing at great economies than heretofore obtained

> ack C. Bec Continental Can Compo

For precise color reproduction on flexible materials Continental Can Company rolles on HUDSON-SHARP Single Impression Cylinder FLEXO-PRESSES

Continental Can specifies H-S Presses for their Flexible Packaging Division*

Look no further to find better flexographic presses for top quality printing on extensible packaging materials than those you see here in the Newark, Ohio plant of Continental Can Company's Flexible Packaging Division. These presses are running 24 hours a day printing intricate line and halftone screen multi-color designs on such materials as Cellophane, Pliofilm, Polyethylene, etc. Holding color impressions and print repeats in accurate register over long runs is just one of the many outstanding advantages these presses offer. Other paramount features that contribute to high operating efficiency and quality printing include:-

- High speed printing with a minimum of material wastel
- Standard presses with two to six color stations
- Print widths 20" to 60" repeats 12" to 36'
- Agitated splash-proof ink fountains
- Hydraulic color throw-outs
- Print 1/2 mil. film to heavy-weight type papers
- Anilox type transfer rolls
- Automatic web tension controls
- Accurate print register constant print design repeats

- Handles unevenly wound rolls or webs of varying caliper
- High speed surface dryers between colors and before rewind
- * Flying splice unwind and rewind (optional) Vibrationless, heavy-duty cast iron
- Anti-friction bearings thru-out
- Easiest of all presses to operate holds positive register through all speed changes

WRITE FOR FREE DESCRIPTIVE BROCHURE



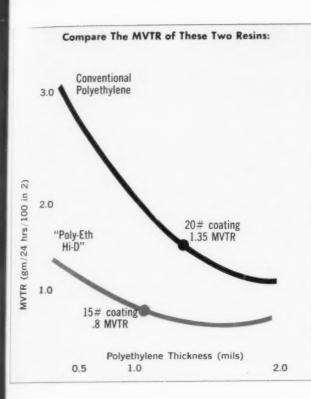
Putting Ideas to Work

FOOD MACHINERY AND CHEMICAL CORPORATION FMC Packaging Machinery Division

> Hudson-Sharp Machine Company 1201 MAIN STREET, GREEN BAY, WISCONSIN

Gives complete oper data and specifications thighly popular and area flexographic presses. company letterhead,

FORMERLY SHELLMAR-BETNER





Moisture protection is vital to our product, Spencer "Mr. N" Ammonium Nitrate because of its hygroscopic nature. By switching to "Poly-Eth Hi-D," we got

Even better moisture protection at a big saving! As the chart at left shows, a 15-lb. coating of "Poly-Eth Hi-D" has a lower MVTR that a 20-lb. coating of conventional polyethylene. For facts and figures on our savings, see complete story below:

How We Cut Our Own Packaging Costs 3% By Switching To A "Hi-D" Moisture Barrier:

This new development can save you big money, as it did us, on moisture-protected multiwall kraft bags. Here are the facts:

Every year, we use millions of kraft multiwall bags to package the Spencer "Mr. N" Ammonium Nitrate Fertilizer we manufacture. Moisture must be sealed out of the bags, or the tiny prills of ammonium nitrate would lock together into a solid block, hard as concrete.

Until recently, the bags were lined with conventional "Poly-Eth" polyethylene, which we also produce. Now, laboratory and storage tests prove that we can get the same or better moisture protection from a 15-pound coating of our "Poly-Eth Hi-D" than we could get with a 20-pound coating of conventional polyethylene. This reduced our bag costs by 3%. Here are the actual figures:

Bags with 20-lb.
polyethylene laminate \$204.40 per
thousand bags

Total Saving \$5.80 per thousand bags

Additional savings are possible with "Hi-D" coated paper. For example, one bag maker reports the following: with conventional polyethylene-coated kraft paper, bags are produced at the rate of 150 a minute and at a lubricant cost of \$100 for a run of 40,000 bags. With "Hi-D"-coated kraft, bags can be made at the rate of 225 per minute and lubricant cost is reduced by half.

Both package users and makers should benefit from this lower-cost laminate. Laboratory tests indicate that the excellent adhesion and outstanding grease-proof qualities of "Poly-Eth Hi-D" offer a wide vari-

ety of uses in packaging protection, at a price never possible until now.

To find out for yourself how "Poly-Eth Hi-D" can fit into your particular packaging operation, contact your nearest Spencer sales representative, or write to Spencer Chemical Company at the address shown below:



SPENCER CHEMICAL COMPANY Dwight Bldg., Kansas City 5, Mo.

LIGHT BULB SURVIVES 30-STORY FALL IN DYLITE PACKAGE



DYLITE shields fragile light bulb

The dramatic picture showing a light bulb being dropped from the Koppers Building is true! It fell 30 stories in a DYLITE plastic package . . . and didn't shatter. In fact, it still worked perfectly when removed from the DYLITE package. This rigorous test proves that DYLITE has amazing impact resistance. It proves, too, that fragile products, packaged in DYLITE, get safe-conduct in shipment. Demonstration package molded by: Lone Star Plastics Company, Inc., Ft. Worth, Texas.



Actual photograph of DYLITE package after story fall.

78

MODERN PACKAGING

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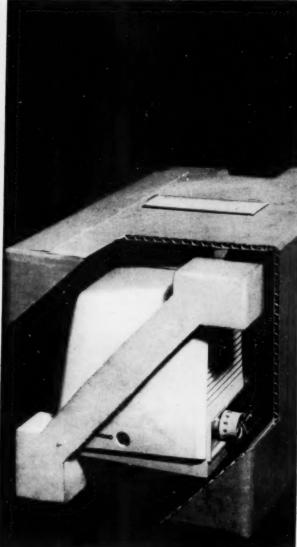
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Kopper needs: DYLAN Compa 19, Pen

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NOVEMBE





DYLITE guards delicate magnetron

A Raytheon radar magnetron is an expensive electronic device that requires careful handling. Here, in this new airshipper, shock-absorbing Dylite assists in the protection of the magnetron. The special indexing feature cradles the magnetron and distributes the shock in shipment. If you're designing or working with expensive machinery that needs special care, perhaps Dylite is your answer. Package molded by: Duval Industries, Winthrop, Massachusetts.

Koppers also makes these other fine plastics for your packaging needs: DYLENE polystyrene, SUPER DYLAN polyethylene and DYLAN polyethylene. For more information, wire or write Koppers Company, Inc., Plastics Division, DYLITE Dept. MP-118, Pittsburgh 19, Pennsylvania. TWX Call Number PG533.

Offices in Principal Cities
In Canada: Dominion Anilines and Chemicals Ltd., Toronto, Ontario



KOPPERS PLASTICS

DYLITE protects sensitive clock-radio

Besides being impact-resistant, DYLITE can also be molded to any size or shape. Look closely at this package—notice how DYLITE fits snugly around RCA Victor's Clock-Radio. By choosing DYLITE for the packaging material, approximately 23¢ per unit was saved, including material cost, labor and overhead. Package components molded by: Sullifoam Corp., Willow Grove, Pennsylvania.

Typical Properties of DYLITE-2 lb. Density/Cu. Ft.

- Compressive Strength-30 Psi
- Tensile Strength-55 Psi
- Water Vapor Transmission—1.18 Perms.
- Water Absorption -. 04 Lbs. /Sq. Ft.
- Thermal Conductivity—0.242 at a 75°F.
 Mean Temperature
- Energy Absorption (Maximum Load)—56.74 In. Lbs./Cu.In.

DYLITE, DYLENE, SUPER DYLAN and DYLAN are registered trademarks of Koppers Company, Inc.



FOR PACKAGE PRINTERS COAST TO COAST!

complete

LINE OF FLEXO INKS

IPI continues to pace the package printing ink field with such great new flexo inks as Flexogem and Flexotuf multi-purpose flexo inks, special heat-resistant inks and fast-drying water-base inks such as Aqualox. We invite you to try them.

complete

NATION-WIDE DISTRIBUTION

New IPI flexo inks are available in printing centers from coast to coast—wherever you find an IPI branch office and service station. Wherever you are located, you will always find IPI flexo inks readily available.

complete

TESTING FACILITIES

IPI flexo inks are always thoroughly tested on the press before they are released—in Interchemical's central laboratory headquarters, in IPI labs and factories. Tests for color uniformity, performance standards, toughness and durability assure uniform quality in every batch.

complete

SERVICE FACILITIES

IPI branches and service stations are staffed by local technicians who have grown up in your vicinity and who know local printing problems. When you need flexo inks, turn to the people who know packaging inks best—IPI ink men. Priced competitively, IPI inks give best results. Try them today.

IPI, IC, Flexogem, Flexotuf and Aqualox are trademarks of Interchemical Corporation



INTERCHEMICAL • PRINTING INK

EXECUTIVE OFFICES: 67 W. 44th ST., NEW YORK 36, N. Y.



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MODERN PACKAGING

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Containers made of **TENITE POLYETHYLENE** serve as more than just "packages"



Ingenious new packages molded of Tenite Polyethylene are a good example of how designers can give outstanding protection to a packaged product and at the same time increase its user-convenience.

Developed and used by a leading manufacturer of hypodermic needles, these packages permit the manufacturer to guarantee sterility of the needles right down to the exact moment of use. Each needle is gas-sterilized in its own sealed package before leaving the factory.

The individual packages consist of a sheathlike container and a heat-sealed cap. Molded lugs on the inside of the container hold the needle securely so that the sensitive point never touches

the walls—an assurance that it reaches the patient factory-sharp.

Not only an excellent protection for the needles during shipment and long shelf life, the tough polyethylene containers also facilitate quick identification and selection. They are colorcoded to needle gage, and each unit also is imprinted with length and gage information.

At the point of use, it is a simple operation to break the seal and remove the cap. The molded lugs within the package allow users to lock the needle hub onto the waiting syringe without ever touching it. Another time-saving feature is that the container sheath can be left on until the last moment, thereby eliminating the usual need for wip-

ing the needle with an alcohol-soaked sponge or cotton to protect its sterility.

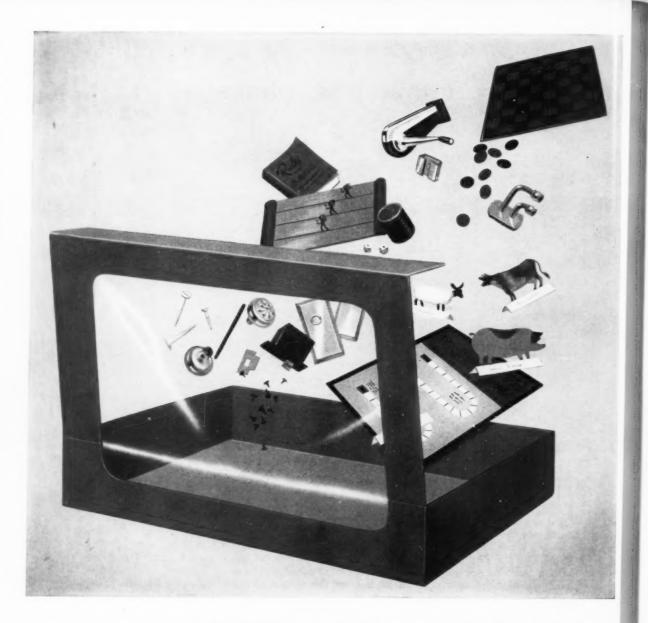
Once the medication has been administered, the container can be slipped back over the needle—the molded lugs make possible easy disengagement of the needle from the syringe. Then, needle and package can be discarded safely.

Versatile Tenite Polyethylene plays many roles in packaging: waterproof and heat-sealable coatings for paper, film or foil...unbreakable bottles, boxes, jars and closures...tough clear or colored film. If you would like to explore the packaging usefulness of this plastic, write EASTMAN CHEMICAL PRODUCTS, INC., subsidiary of Eastman Kodak Company, KINGSPORT, TENN.

TENITE

POLYETHYLENE

an Eastman plastic



Give your product the advantages of transparent packaging...use windows of clear, strong Mylar®

Is your product tough to package, slow to sell? Why not give it complete protection plus the advantages of visible packaging in window boxes made with super-strong Du Pont "Mylar" polyester film?

Windows of "Mylar" have excellent tear and puncture resistance, exceptional impact strength, long life. "Mylar" is unaffected by grease and oils. And its superior dimensional stability prevents box warping. In addition, "Mylar" gives your window boxes the advantages of dazzling, sales-winning transparency.

BE SURE TO SPECIFY windows of "Mylar" on your next carton order. For the full story, call your carton supplier. E. I. du Pont de Nemours & Co. (Inc.), Film Department, Wilmington 98, Delaware.

*''Mylar'' is Du Pont's registered trademark for its brand of polyester film. Du Pont does not make window boxes.



BETTER THINGS FOR BETTER LIVING

"MYLAR" GIVES THE SELLING POWER OF BRILLIANT CLARITY PLUS SUPER STRENGTH ...









Here are some packages currently made on

fully automatic packaging units that have been supplied in the last few years to North-America











NATIONAL TEA CO.

1000 CROSBY STREET

CHICAGO 80, ILLINOIS

September 23, 1957

Fr. Hesser Machinenfabrik, A.C. Stuttgart Bad Cannstatt West Germany

Gentlemen:

We have had our Hesser Coffee Bagging Machine for the past twenty-three years and up to this time I can truthfully state that of all the equipment I have maintained I have had the least amount of breakdowns and maintenance problems on your coffee bagging machine.

Due to modern changes we may, in the near future, be in the market for another coffee bagging machine and I feel that since we have had such success with the Hesser machine, we would not consider any other machine in the coffee line.



Yours very truly,

NATIONAL TEA COMPANY

W. C. Drews Engineering Department

This is the opinion of a company that has been working with such a machine for more than 23 years



FR.HESSER MASCHINENFABRIK-AKTIENGESELLSCHAFT - STUTTGART-BAD CANNSTATT

Represented by:

Geveke, New York

Packaging Equipment, Toronto

Wagner, Dallas

Hale, San Francisco, Los Angeles, Seattle

Anahuac, Mexico City

FULLY AUTOMATIC

PUSH-BUTTON PRODUCTION OF SMALL ROLLS

with TYPE XP SCHULTZ REWINDING MACHINES Schultz means fully automatic!

Schultz means fully automatic!

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engineering corp.

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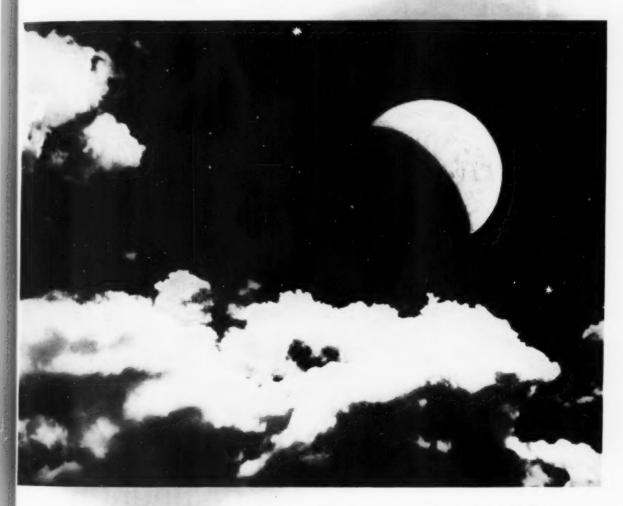
We will be pleased to send informative literature.

Other Schultz Automatic Types and Models are available for virtually every roll winding requirement.

Refires

You Can "Aim For the Moon" and <u>Hit It</u> When Your Cartons are Made of ...

No. 90 ULTRAGLOSS



Spectacular in Its Glossy, Gleaming, Glazed Finish!

Complete distinction, the very ultimate in packaging beauty, is now within range for manufacturers of class products. Using No. 90 Ultragloss, never-before contrasts can be achieved between printed and unprinted areas... a sense of modernity, cleanliness, and quality conveyed at a glance. Further, since new lighter grades are now in production, the unique glazed beauty of No. 90 Ultragloss can also be given to postcards, menus, match books, display cards, tags and tickets... the whole gamut of sales and promotion printed matter. Samples, in white or pastel colors, in boxboard or .010 or .012 card stocks, will be sent you gladly upon request.

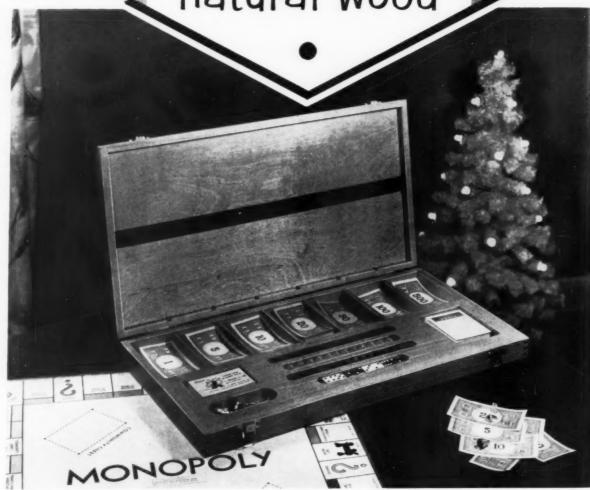


LOWE PAPER COMPANY Ridgefield, N. J.

An Independent Mill - Serving Industry Since 1906

Refiresentatives · Detroit-Joseph P. Giroux · Los Angeles-Norman A. Buist · Philadelphia-Philip Rudolph & Son, Inc. · St. Louis-A. E. Kellogg





NATURAL WOOD FOR distinction

To add distinction, natural wood is the natural choice. To add permanence, too, and convenience, Parker Brothers, Inc. chose this beautiful honey-maple finished chest of Selected Northern Hardwood for its deluxe edition of Monopoly.*

Whatever your sales appeal, it can be enhanced by the tasteful touch of wood packaging. Whatever the character of your product, Dunning can help you express it with the appropriate package or display. Select from an unlimited variety of woods, textures, grains, and finishes; add prestige and protection at lowest cost. No other packaging material is so versatile or appealing. And in the skillful use of fine woods, no one is so experienced as Dunning.

Like to see more dramatic applications of wooden boxes, cases and displays, gift and specialty items? Write today for complete information.



1950 POST ROAD

the

VOLEW

WHY CONVERTERS BUY MORE

INIA-RUTU LAMINATORS

THAN ALL OTHERS COMBINED

For Foil, Film, Paper, or Paperboard Lamination

- Inta-Roto laminators are precision machines, and precision equipment is a must for sustained high speed lamination, for quality lamination, and for laminated materials that can be processed further on other high speed machines.
- Constant, accurate maintenance of proper tensions, plus precision in adhesive application, give Inta-Roto Jaminators production speeds of 1000 feet per minute, with full quality control.
- Your Inta-Roto laminator is completely assembled at our plant before shipment, for a test run using your materials; and at this time we check your men out on the running of the machine.
- Inta-Roto ships the complete machine. There are no parts to wait for from various points in the country. You can assemble it at once and thus get into production faster.
- Inta-Roto offers independent machines for separate laminating operations, or in-line units for use with other equipment. Combination laminators are also available for laminating and coloring or coating in the same operation.

- 6 Inta-Roto laminators are built on the unit principle. By this method, the machine can be modified to meet added requirements of production and other units may be added at a later date.
- Inta-Roto laminators are designed for laminating with aqueous or solvent type adhesives or with hot melts.
- Although Inta Boto makes equipment for the giants of industry, it gives every bit as much attention to the detailed needs of the smallest converter.

For further information about laminators for your particular operation, write:

INTA-ROTO

MACHINE COMPANY, INC.

P. O. Box 454, Byrd Airport, Richmond 3, Va.
Telephone: REpublic 7-4181

Manufacturers of rotogravure presses, laminorors, alitters, rewinders and other precision machinery for the converter.

Economical semi-automatic labeling for short runs and frequent job changes

Exclusive vacuum principle delivers fast, precision labeling. Uniform label pick-up, precise label placement, complete elimination of excess glue.

Applies labels to recessed, paneled, convex or concave surfaces. Handles foil, varnished or embossed labels. Can be used with nearly all types of products or containers.

Simple, low-cost change parts; 15 minute changeover. Ask for details, proof, demonstration. PONY LABELRITE*

Up to 60 LABELS PER MINUTE

Adds tremendous versatility to your packaging operation

- Handles more types of labeling.
- Mechanizes more kinds of jobs.
- Works with a wider range of labels, products, packages.

See how many applications you have for this money-saving, many-purpose machine

- · Bottles · Jurs · Boxes
- Ampules Seals
- Hinge applying to paper baxes
- · Wrap-around labeling
- · Calendar tip-ons
- Photo-mounts
- Jugs Cons Decais
- · Insertion of literature
- Greeting Card underlay:
- Counter Displays
- Address labelies

ts typical Labelrite

....

OPERATING ADVANTAGES

ADAPTABILITY. Fits any standard production line.

SPEED. Smaller work often permits two-at-a-time feeding.

PERFECT REGISTER. Positive delivery of label from hopper to container.

POSITIVE GLUE CONTROL. Twin rollers for uniform glue distribution.

OVER-ALL OR STENCIL GLUING. Over-all gluing standard; strip or pattern when desired.

LOW OPERATING COST. No inspection and wiping, faster feeding without fatigue.

QUICK CHANGE-OVER. Operator can easily make her own change-over.

SELF-CLEANING FEATURE. Quick, simple; takes less time from productive hours.

REG. U. S. PAT. OFF.

VERSATILE. Works with amazing variety of sizes, shapes, materials, objects.

PREVENTS EXCESSIVE ADHESIVE. Positive control of glue film, no wiping of containers.

NEW JERSEY MACHINE

CORPORATION

AUTOMATIC LABELING

PACKAGING . PAPER BOX MACHINERY . MAKERS OF THE PONY LABELRITE

FACTORY SALES AND SERVICE BRANCHES: CHICAGO, CINCINNATI, LOS ANGELES

GENERAL OFFICES AND PLANT: 1500 WILLOW AVENUE, HOBOKEN, N. J.



PROVIDE YOU WITH A NEW SELLING FORCE!

Today's competitive market requires a container that displays your product to the best advantage . . . a container that literally sells its product! For candy, toys, powders . . . almost everything with an attractive appearance . . . these C-THRU containers are ideal.

Furnished with metal bottom and plastic closure fitted in metal top . . . metal bottom and new allplastic closure top . . . plastic plug bottom and top . . . or with other combinations using plastic plugs and the new sift-and-pour plastic closures.

Spiral bands of bright color can be printed for product identification. Tops and bottoms furnished in colors to match or contrast the bands.

Made in diameters from 3/8" to 6" (large container in middle is 4") . . . their tough construction fully protects contents. Let us design a transparent container for your product.

LOS ANGELES

PLYMOUTH, WIS.

JAMESBURG, N. J.

Write for packaging brochure showing complete line.

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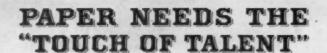
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MODERN PACKAGING

November 1958

Featured in this issue . . .

The amazing economies of packaging in plastics

It's a startling concept, but as plastics prices go down and those of other packaging materials go up, costs alone sometimes swing the choice to plastics. In fact, in an increasing number of cases a plastic has become the *lowest cost* packaging material to do a given job. Numerous examples prove the point. There are economy stories in all categories: molded, fabricated and thermoformed plastics—as well as in the downward cost trend of certain thermoformed plastic films in competition with older materials. In this article, Modern Packaging examines the varied reasons for this increasingly more favorable economic climate for plastics and discusses in detail specific examples that show how today's packagers not only hold costs down, but also actually save money by using plastics.

See "Plastics for Economy," p. 93

Closures: record of triumphs by a captive industry

Although its performance is taken for granted, like coffee in the morning, the right closure is as important to product protection and package convenience as the container itself. The annual output of the closure-supplying industry is astronomical—something like 62 billion crown caps, metal caps and plastic closures. Not included are the additional billions of such specialities as corks, plastic caps for collapsible tubes, and paper and foil caps for milk bottles. But the progress of this industry—now more than twice as big as it was before World War II—is just gaining momentum. Technological improvements are bringing new protection for the product, new convenience for the consumer, new merchandising glamour (particularly in colorful plastics) and ever-faster production speeds.

Read this month's Supplier-Industry Survey, "Closures," p. 104

For finer protection, a new saran-type flat wrapping film

Saran films are well known for such excellent physical and protective properties as high clarity and sheen, low permeability to water vapor and gases, and resistance to grease, oils and acids. These are, of course, highly desirable properties in food packaging. Now comes a new, flat Cryovac film—made from a type of saran resin—that combines all these properties with a high degree of controlled heat shrink, easy heat sealing, excellent handling and fine printability. It is designed for wrap applications, particularly in packaging processed meats, poultry and cheese, where protection and appearance are vital film factors. In actual uses, the shelf life of foods packaged in the new film is often the maximum possible, short of vacuum packaging. There is virtually no loss from product dehydration, and spoilage caused by rancidity, mold or other microbiological growth is sharply retarded. A technical report by Donald E. Westcott and Howard H. Reynolds.

Economical cylinder board with superior printing qualities

A significant advance in the quality of economical cylinder board for packaging purposes is heralded by the introduction of Fairmont Foods Co.'s handsome new ice-cream cartons. The pictorial cartons combine fine artwork and design with screen shades of two basic colors to achieve a four-color effect. This technique requires an excellent printing surface which could formerly be obtained only on expensive paper stock. But Fairmont is doing the job with low-cost stock. The secret is a new cylinder board-making machine that not only offers quality advantages, but also helps hold the line on costs. The smooth-surfaced, uniform board produced on this machine also

is said to have excellent folding characteristics, so it can be run on high-speed automatic packaging machinery. For details on an application that may well have a revolutionary impact on the cartonboard field,

Don't miss "Upgraded Cartons," p. 102

How to save film and product in a pouch package

Showing the way to new economies for pouch packers in many product industries, a New England company has reduced the tolerance of net weights on its line of bagged candy and cut down the amount of film needed for the pouches by almost 7%. The packager, Edgar P. Lewis & Sons, has achieved this double cost reduction on its 65-pouch-per-minute line with only a single machine. It is a polyethylene-pouch former, filler, sealer that incorporates (1) a new type of cantilevered scale for more precise weighing and (2) an impulse sealer equipped with a cold-wire cut-off that achieves a hairline seal at the very edge of the pouch. Previous film waste in seal and end areas is practically eliminated. And this saving in film, the company points out, is made without sacrificing seal strength.

Turn to "Saving Product, Saving Film," p. 121

How automated packaging pays off for the 'little guy,' too

Here's proof that you don't have to be an industrial giant to reap the benefits of an automated packaging line. In the detergent and bleach business, dominated by billion-dollar packagers, Sinclair Mfg. Co. successfully emulates its big competition with a modern 200-can-per-minute line that has reduced costs, increased efficiency and sales, and helped maintain rigid quality control on annual sales volume of \$2.5 million. Sinclair's new automated line cost \$60,000, exclusive of product-mixing equipment. The investment is paying off. High sales volume of the firm's "Sprite" and "Coral" are attributable to a relatively low retail price made possible by a one-shift packaging operation that reduces labor costs to less than 4% of sales, compared with 7% for non-automated lines. This labor saving is due to tripled production by a seven-man crew.

Get the details in "Automation is Not Just for Giants," p. 110

Low-cost composite container does a tough packaging job

The new tear-string fibre can for Airkem solid-stick industrial deodorant should arouse wide packager interest because it represents the actuality of an idea that is getting considerable attention today: upgrading the protective qualities of such low-cost containers by adding aluminum foil and plastic coatings. Airkem's new can successfully contains concentrated volatile oils, previously packaged only in glass at three times the total cost. Vapor protection in the wall of the aluminum-end can is provided by a wrap-around foil label and an inner spray coating of a polyethylene-wax blend. The 2-mil inner coating has a melting point of 180 deg. F., so the deodorant can be poured in liquid form (at 160 deg. F.) into the container, where it solidifies and eliminates air voids.

See "Fibre Can for a Problem Product," p. 99

Polyester pouch make a difficult job look easy

Heat-sealable polyester film is making a reputation as a packaging material that can cope with the extreme demands of difficult applications. Now it is being used by Gold Seal Co. as a pouch package for liquid colorant which consumers mix with "Glass Wax" to decorate windows at Christmas. The company's decision in favor of polyester pouches was based on the film's proved ability to satisfy four requirements common to packagers in many fields: (1) high-speed, volume production to meet big seasonal demand; (2) positive protection against damage to prevent leakage; (3) transparency for product display; (4) ease of opening and dispensing. The pouches are coming off a modified pouch-making machine at an average rate of 530 per minute. They're tough enough to withstand direct pressure of 250 lbs. per sq. in., but a built-in tear feature makes opening a cinch.

Read "Liquid Colors in Polyester Pouch," p. 100

Pl's 20th Annual Forum emphasizes package technology

Emphasis was on technology at the 20th Annual Forum of the Packaging Institute in Chicago. There was also a full quota of material for technical and production personnel. Among highlights of the three-day get-together were an Awards Dinner at which PI presented its Professional and Corporate Awards and a joint PI-Society of Industrial Packaging & Materials Handling Engineers technical program.

See "20th Annual PI Forum," p. 133

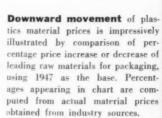


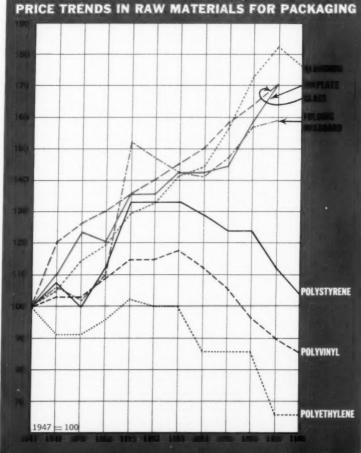
It's a startling new concept. But as plastics prices go down
and other materials go up, packagers are reaching
the point where costs alone sometimes swing the choice to plastics

PLASTICS FOR ECONOMY

With "Plastics for Profit" the theme of the Eighth National Plastics Exposition being held in Chicago's International Amphitheatre this month, it's time to take another good look at the really significant changes taking place in the concepts and economy of plastics packaging.

Plastics need no longer be regarded as expensive packaging frills. In increasing numbers, packagers are eying plastics as an actual means to economy. Developments are coming along so fast that plastics in volume are rapidly moving up into a class with the traditional giants of the packaging field—metal, glass and paper. The fact is that the conventional materials have been steadily inching up in price, while plastics have been rapidly coming down, giving plastics their first real opportunity to compete







In Europe, low-cost containers of non-plasticized, non-toxic polyvinyl chloride for margarine and butter are being made on one continuous thermoforming machine that takes the material from a web, pre-forms, prints, fills and seals packages in one integrated operation in user's plant.

on the basis of over-all packaging costs. In an increasing number of cases, a plastic has become the *lowest cost* packaging material to do a given job when all factors are considered.

See what's happening:

Lever Bros. selected a 12-oz. molded linear-polyethylene bottle for its Swan Lotion Detergent not merely because it was an attractive package, but because it could be adopted at a cost no greater than that of a metal can. Within weeks, there will be other breakthroughs of even larger 22-oz. polyethylene bottles for detergents and household products which may drop below the rock-bottom cost basis of metal and glass, when shipping weights are considered. Light shipping weight increasingly tops the cost scale in favor of plastics.

From Europe comes news of a new kind of plastic bottle for Nestlé's Maggi seasoning, made of non-plasticized, non-toxic polyvinyl chloride (PVC) which not only handles a product once considered impossible for plastics, but effects a 90% saving in shipping weight and a 23% saving in packing materials,2

There are economy stories in all categories: molded, fabricated and thermoformed plastics, as well as in the downward cost of certain plastic films in competition with cellophane and even paper.

In this article Modern Packaging examines the reasons for this increasingly more favorable economic climate for plastics and discusses in detail a few examples that show how today's packagers are not only holding costs down, but are actually saving money by using plastics.

Forces at work to create this present favorable economy may be pinpointed as follows:

- ▶ The price trend of plastics raw materials (particularly polyethylene and polystyrene) has been steadily downward, in contrast to the steadily rising price curve of most other packaging materials.
- ▶ The plastics industry has now generally accepted the concept that success of plastics packaging lies in big-volume, throw-away containers—not in reuse refrigerator jars and trinket boxes made to last forever. This has resulted in the multi-million-unit production of expendable plastic packages for razor blades, ballpoint pens, ice cream, flashlight bulbs, single-service institutional packages for jams and jellies, disposable tomato trays and berry baskets—with drastically lowered cost due to volume.³
- ▶ Efforts of polyethylene bottle and tube manufacturers have been directed recently toward producing the *most economical* package for a given job, exclusive of original squeeze-spray or other special functions.
- The universal search for lighter-weight containers to offset continually higher transportation and labor costs has put new emphasis on plastics.
- ▶ New plastics of greater strength have permitted thin-wall designs that reduce use of materials.
- ▶ Developments in high-speed equipment are putting plastics packages on a mass-production basis comparable with other forms of packaging.

Of all these forces, the two, perhaps, that have the greatest influence in focusing present attention on the possibilities for cost cutting with plastics are (1) the downward trend in the price of plastic materials and containers and (2) the urgent need for packages that save shipping weight and labor.

The best index that can be worked out for the period from 1949 to 1957 shows that the average price of a low-density polyethylene bottle has decreased more than 30%, while the average price of a comparable-sized Boston round glass bottle has moved upward about 44%, bringing the price curves of the two closer to the crossing point. The average price of cans has increased about 47% in a comparable period. And, due to the recent increases in the price of steel and tinplate, another boost in the price of cans was announced only last month.

Plastics raw materials, on the other hand, have been showing downward price curves since 1947, polyethylene being 34% lower per pound than in 1947; polyvinyl, about 14% less; and polystyrene, 29% below its highest point in 1953. This decrease is reflected impressively in the downward price of molded polystyrene containers, the pint size, such as used for ice cream and salads, reportedly down

See "New Economy in Plastic Bottles," Modern Packaging, Sept.,
 1958, p. 104.
 See "A New Plastic Bottle," Modern Packaging, Oct., 1958, p. 100.

See "Molded Plastic Containers," Modern Packaging, Sept., 1957, p. 120.

from \$72 a thousand to as low as \$39 in about three years; half-gallons are down from \$170 to \$125 per thousand.

A major user of polyethylene squeeze cans with metal ends says the economy of this type of container, based on over-all costs, is getting closer and closer to glass. Polyethylene film is 66% less in price than 10 years ago, whereas cellophane is 40% higher.

Increased railroad freight rates of 2 to 3%, depending on classification, announced in February of this year, may not sound like much. But one food manufacturer estimates that shipments of just one of his leading products amount to 320 million pounds a year. If the freight increases on this were only 20 cents per hundred pounds (and they are probably more than that), they would represent increased shipping costs of \$640,000 a year on just this one product. If a switch to a plastic package could reduce the shipping weight of that product by only 20%, the yearly saving in freight costs would be \$128,000.

Depending on capacity, polyethylene bottles run from one-fourth to one-fifteenth the weight of empty glass containers. And, as in the case of Nestle's Maggi, there are additional savings due to elimination or reduction of cushioning materials required because of the unbreakable feature of plastic containers.

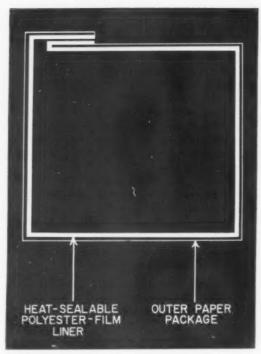
While the real breakthrough of polyethylene bottles may still be around the corner, the following examples in other areas of plastics, it is believed, are worth careful study. They show how plastics are already reducing costs in specific instances.

They reflect not only the lower costs of plastic packaging materials themselves, but the many attendant savings that improved techniques in plastics packaging can effect for the user today, such as weight savings, increased efficiency in handling, faster production, or the saving of storage space.

PLASTIC-PAPER OIL CONTAINER

Still in the pilot-testing stage, but highly significant as a new concept in plastic packaging, is a liquid-tight, paper-plastic package for motor oil, using heat-sealable polyester film, which is now under study by several leading oil companies.

The rectangular container, designed to be formed, filled and sealed from a roll of laminated material in one continuous in-plant operation. is constructed in a manner to provide a complete film-to-film seal on all interior surfaces of the package.



Sketch shows how liquid-tight container is put together to provide complete film-to-film seal on all interior surfaces of the package.

The economics can be broken down into three distinct divisions: (1) container cost, (2) expected efficiencies in shipping, storing and handling of empties and (3) additional savings with the filled container.

In test operations, estimated total cost of raw materials and processing of the new container have been found to lie between 4 and 4.5 cents. (The average price of a quart-sized, lithographed metal oil can alone today is reportedly between 5 and 5.1 cents.) In the cost of the new paper-plastic container are considered the cost of the film liner, the reinforcing paper, laminating the film to the paper, three-color rotogravure printing, scoring the container, cutting the container from the web, forming the container into its final shape and the packaging, freight and miscellaneous costs. And it is pointed out that combining these operations in large production runs would undoubtedly result in further economies.

If the containers were bought in roll form—as is the plan—3,000 to a roll 24 in. in diameter and 12 in. across, the roll could occupy about 4 cu. ft. To ship and store 3,000 cans requires 150 cu. ft. This would offer the new package a space advantage of one to 27. Graphically, this can be visualized as one freight car for the plastic packages instead of 27 for the same number of empty cans. Elaborate conveyors would be eliminated; a roll of 3,000 could be moved to the filling machine with ease.

On the basis of full containers, a cylindrical present-day container occupies approximately 88 cu. in. of space. A rectangular carton of the new paper-film type would occupy 57 cu. in., cutting down space to store and ship filled containers by 35%. This economy would be evident within the shipping vehicle, at the point of distribution and at the point of sale.

The weight ratio of the new container to metal cans is estimated at one to six—approximately 18 gms. in contrast to 115 gms. This would mean that for every thousand cans of oil shipped, a freight saving to the extent of 215 lbs. would be realized. Even aluminum containers, it is figured, could meet such a weight saving only half way.

Supplies and Services: Paper-film containers are a development of Minnesota Mining & Mfg. Co., 900 Bush Ave., St. Paul 6, Minn.

MOLDED-PLASTIC BASKETS

One of the basic elements of a packaging development that is saving millions of dollars for California fruit growers is the mass-produced, injection-molded polystyrene basket used in combination with specially designed corrugated trays.

Adopted seven years ago as a component of a shipping unit for California strawberries, it is now being used for grapes picked and packed right off the vines by a method that reportedly reduces waste from 10 to 15% per crate.

Polystyrene containers for grapes today actually cost less than traditional wooden baskets and are considerably cheaper than paper-board trays—a significant factor in the economy of packaging California fruit, which is handled only once between picking and purchase.



For this operation, the plastic basket today is the lowest-price container to do the job, say these packers, actually costing less than traditional wooden baskets and considerably cheaper than folding paperboard baskets. This economy has been achieved by high-speed production techniques and improvement in structural design that gives greater strength with the use of less molding material.

The non-absorptive characteristics of the latticed plastic baskets minimize spoilage by providing better ventilation of the fruit in the package and reducing contact with the container, thereby effecting the economies inherent to greatly extended shelf life.

And the packaging procedure which necessitates handling the fruit only once between picking and purchase has resulted in a product that commands a higher price at produce auctions because full contents of each crate supposedly are salable as a quality product.

Formerly, when grapes were packed loose in crates, it was figured that 10 to 15% of the poundage was lost due to grapes that spoiled or fell off the bunch during multiple handlings. By the time the grapes were again handled in retail outlets, considerably more poundage was lost through product damage.

The procedure which eliminates this waste is as follows: As they are picked, the grapes are put directly into the plastic baskets, which previously have been placed in corrugated trays. This assembly of the package is done on high-speed automatic equipment mounted on huge mobile units that go right to the vineyards. Filled trays are thus almost immediately ready for shipment in refrigerated freight cars, arriving in Eastern markets less than a week from the time they leave the vine.

The new method of packaging reportedly also results in savings through more efficient carloading. All of this means more money in the grower's pocket and a better profit for the retailer.

Supplies and Services: Polystyrene baskets by Allied Plastics Co., 6231 S. Manhattan Pl., Los Angeles. Corrugated trays by The Flintkote Co., 5500 S. Alameda St., Los Angeles.

CUBE-IN-CARTON

One approach to low cost in plastics is to combine a thin, non-supporting plastic wall with the rigidity of economical corrugated board.

John A. Chew, Inc., New York, a producer of industrial chemicals, recently adopted for muriatic



Light weight of cube-shaped polyethylene shipping unit reportedly saves 30% per gallon in freight costs, 28% in unit-packaging costs in typical distance shipments of muriatic acid.

acid the interesting new thin-wall, cubical polyethylene container with integral pouring spout which, combined with an outer corrugated carton, has already made its advent for battery acid and other chemicals.⁴

Muriatic acid is used in the paint, hardware and repair fields for cleaning masonry surfaces, vitreous enamel, glazed tile, brick, stone and metal surfaces.

Because of its highly corrosive nature and the possibility of seepage of dangerous fumes, it had always been necessary to ship it in glass containers with very secure closures. For delivery within a radius of a hundred miles, returnable glass containers are economical, but for long-distance shipments, the heavy bottle plus its outer container of "12-A" construction became, in the company's view, excessively costly.

The company says that its switch to the polyethylene cube container for distant shipments has cut these costs impressively.

Packed four to a master carton, the tare weight of the new polyethylene-cube container of 1-gal. size is 0.5 lbs., costing 30 cents, in contrast with 4.34 lbs. for a 1-gal. heavy-duty glass bottle in an individual shipper, which costs 42 cents. Approximate weight of the new plastic package when filled per 100 gals. is 900 lbs., whereas the conventional filled glass-container assembly weighs 1,300 lbs. per 100 gallons.

Based on a classification of \$2 per CWT in 1-ton quantities for truck shipments from Jersey City, N. J., to Richmond, Va., the new plastic package costs \$18 for shipment of 100 gals, whereas the old type of container cost \$26 freight for 100 gallons.

This reveals savings in tare weight of 88% per gallon, 28% in unit package costs per gallon and

*See "Battery Acid in a Bag," Modern Packaging, May, 1956, p. 110.

30% per gallon in freight charges, the company says. It does not involve complicated arithmetic to figure out what such savings mean to any company with volume shipments.

Additional advantages reported by John A. Chew are greater safety in handling; 50% reduction in storage space for filled containers; a 95% reduction in stock damage; elimination of product fume seepage occuring if bottle closures are not tight, and elimination of container breakage caused by expansion due to freezing of the product.

Supplies and Services: Polyethylene "Cubitainer" inserts by Hedwin Corp., 1600 Roland Heights Ave., Baltimore 11, Md. Corrugated containers by Kiechkhefer-Eddy Div., Weyerhaeuser Timber Co., P. O. Box 710, Camden, N. J. Cartons for 1-qt. size by Container Corp. of America, 38 S. Dearborn St., Chicago 3.

COST-SAVING THERMOFORMS

In Waterbury, Conn., Roehr Products Co., Inc., makes disposable hypodermic needles by the millions. They were packed in paper boxes with interior partitions until two years ago, when a repackaging idea was suggested by a thermoformed plastic package for sewing-machine needles.

Today, thermoformed tray packages of high-

Hypodermic needles in compact thermoformed trays reportedly have cut shipping costs substantially due to lighter weight of these new packages. Space-saving detail of alternatingrecess arrangement is shown by this package for 20 units, photographed upside down.



impact polystyrene with sliding paperboard covers are reportedly effecting substantial savings in actual container costs and in transportation costs due to reduced shipping weight.

In this case, the price of the plastic packages runs approximately the same per thousand as the former package, but the number of hypodermic needles that can be packed per package is $2\frac{1}{2}$ as many. The old packages would hold only 20 hypodermic needles each, whereas the new thermoformed plastic packages will hold up to 50 each. Thus, the savings are in the greatly reduced number of packages it takes to pack an equivalent number of needles.

This feat is accomplished by contouring the formed recesses in the plastic trays to hold the needles alternately in a row, point to hub and hub to point, each in its individual compartment. This arrangement leaves no waste space between the individual hypodermic needles, as was the case with former packaging.

The trays are packed 20 to the box for shipment to pharmaceutical houses, which are Roehr's largest customers.

The company is also studying methods for automatic packaging and believes that the plastic packaging may eventually provide the answer to much faster production, with attendant increased efficiencies.

Supplies and Services: Thermoformed packages by Plastic Artisans, Inc, Dock St. & Martin Pl., Port Chester, N. Y., using high-impact polystyrene sheet made by The Gilman Bros. Co., Gilman, Conn., from Dow Chemical Co.'s material.



Molded-in lettering provides for brand identity and convenient flavor selection of confections in these protective trays that save labor in assembly and improve appearance of James packages.

EXPANDED POLYSTYRENE TRAYS

Economies to be effected by use of the new expanded polystyrene for trays in set-up boxes are illustrated by the experience of James Candy Co., Atlantic City, N. J., with the packaging of its individually foil-wrapped Deluxe Chocolate Sealed Salt Water Taffy.

According to James, the molded trays represent substantial labor savings over die-cut paperboard platforms at no increase in package-material costs. James pays the same price for boxes with the plastic platforms as it did for boxes with paperboard platforms. But it completely eliminates the labor expense of removing the platforms prior to filling. The plastic trays are merely placed on a belt and are filled as they pass along prior to insertion in the box.

And the set-up box supplier is able to sell box and

tray at the same price as the former paper platform box, because by shipping the plastic trays separately, he saves the labor cost of setting up the paperboard platforms and inserting them into the boxes before they leave his plant.

The smooth-surfaced plastic trays not only offer efficient protection for mail orders, plus certain advantages of insulation against heat during summer months, but add considerably to the quality appearance of the package, James maintains.

Molded-in brand identity and flavor information on the James trays also point up refinements in the technique of molding expanded polystyrene to carry promotional messages, taking the place of printing. Supplies and Services: Molded trays by Foam-Pak, Inc., 400 N. 12 St., Philadelphia 23, using Koppers expanded polystyrene (Dylite). Set-up boxes by Walter P. Miller Co., Inc., 452 York Ave., Philadelphia 23.

Fibre can for a problem product

Foil outer and plastic inner surfaces successfully hold highly volatile Airkem deodorant, suggesting that other tough packaging jobs can be handled by low-cost composite containers

Considerable attention is being given currently to the idea of building up the protective qualities of fibre-wall cans through the addition of aluminum foil, plastic coatings, etc. Many believe that such a container will be the aluminum industry's best bet to compete with tinplate and glass, rather than the more costly all-aluminum.

Of interest, therefore, is Airkem, Inc.'s new tearstring fibre can for a solid-stick industrial odor counteractant, "Solidaire," which contains concentrated volatile oils, previously packaged in glass at three times the cost. Vapor protection in the wall of the triple-ply, convolute-wound, metal-end can is provided by a wrap-around foil label and an inner spray coat of a high-melt polyethylene-wax blend.

The interior coating, 2 mils thick, has a melting point of 180 deg. F. This makes it possible to pour the deodorant in liquid state, at 160 deg., directly into the container, where it solidifies and eliminates troublesome air voids. The two metal ends of the can are 0.012-in. aluminum. double seamed. The virtual elimination of air space in the completely filled can prevents the product from reacting with oxygen to corrode the aluminum ends.

Originally, the deodorant was a bottled liquid. However, for ease in servicing dispensing equipment, Airkem changed the product to a jelly-like solid. This formulation, in stick form, was not easy to fill or to extract from a glass jar, nor did the company find a suitable glass container in the desired

slim, cylindrical shape. Thus manufacturing and packaging operations both were more costly. Tests on smaller glass containers showed they would be disproportionately heavy and subject to breakage, and would necessitate a large headspace that unfortunately encouraged condensation of water vapor from the product inside the container.

The product does not adhere to the wax-coated sides of the fibre can. The tear string provides quick access into the 8-in, container and permits the product to be divided evenly with a knife for dispensers requiring a 4-in, length of deodorant. Supplies and Services: Can by Sefton Fibre Can Co., 3275 Big Bend Blvd., St. Louis 17. Label by Chapp Printing Specialties, Inc., 350 Hudson St., New York.

At one-third the cost of previous packaging in glass, tear-string fibre can successfully conveys solid deodorant to industrial users without loss of extremely volatile components. Triple-wall convolute-wound can with double-seamed aluminum ends has printed foil wrap-around label and inner spray coating of polyethylene-wax blend.



New Drighter Steneds and Christman Steneds Colores of State State

Easy opening of these polyester pouches of liquid colors is provided by notched integral pour spouts. Carton holds eight pouches of the liquid colors to be mixed with "Glass Wax" for stenciling Christmas decorations on windows.

Liquid colors

A snowballing Christmas fad of decorating windows with "Glass Wax" has created a new packaging job for heat-sealable polyester film that calls on a combination of the outstanding properties now giving this four-year-old material a reputation for coping with the extreme demands of difficult applications.

The package is a small pouch of liquid colorant which consumers mix with "Glass Wax" and apply with stencils to decorate windows for the holidays. The manufacturer, The Gold Seal Co., Bismarck, N. D., packs an eight-pouch variety of colors in addition to its regular "Glass Wax" and stencil packages. Anticipating a record demand this year for its stencil-coloring combination, the company faced these packaging needs, common to packagers in many product fields:

1. A high seasonal demand requiring volume production to build a large inventory.

Positive protection against damage to prevent leakage in shipping and handling and so avoid irritating retailers and end users.

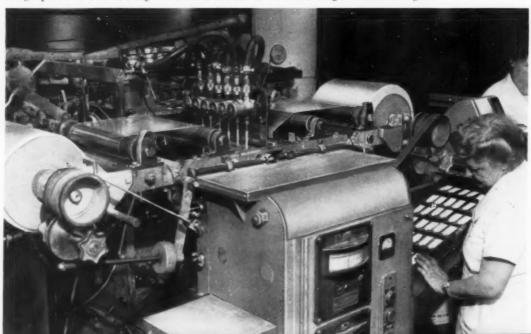
3. Transparency to display the variety of colors.

4. Ease of opening and dispensing for customer convenience.

In heat-sealable polyester film, Gold Seal found these suitable properties to meet its four objectives:

1. Good machine-handling characteristics. This

Compact machine uses two 900-yd. rolls of heat-sealable polyester film, one fed from each side, to package liquid colors at high speed. Note six-head filling unit (middle) and take-off convevor leading to carton line (right).



in polyester pouch

At an average rate of 530 units per minute decorative 'Glass Wax' colorants are packaged in tough, heat-sealable film that answers a need for volume output in leakproof containers

permits high-speed forming, filling and sealing of pouches. Polyester film has a resiliency that precludes many types of machine difficulties.

Toughness. This toughest of all plastics has high bursting and tear strength, a low water-transmission rate, good folding endurance and long shelf life.

3. Clarity. The film has brilliant clarity.

 Ease of opening. Although its toughness tends to prevent tears from starting, it tears relatively easily once a tear is begun and tearing pressure is maintained.

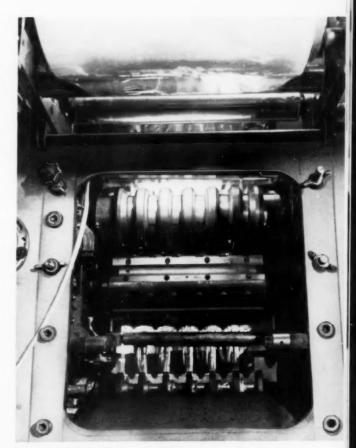
Using a continuous-motion machine to produce pouches at an average of 530 per minute, Gold Seal is able to market a package that prevents delamination or crushing and so avoids pouch leakage. The pouches are product free in the seal areas and are spot tested every half hour on the packaging line to withstand 250 lbs. per sq. in. of direct pressure.

To accomplish this and yet produce a practical package, a standard pouch-making machine had to be modified by the contract packager so it would both separate the pouches and create an easy tear opening in the very tough film.

On the packaging line, two rolls of 2.5-mil heat-sealable polyester film (each 101/s in. wide) are fed into the top of the machine and pass between a set of vertical heat-sealing wheels that weld the two webs into six vertical compartments. Passing down through the machine, the stock is next top sealed (upside down) with a set of rotating horizontal seal bars, each tooled to form a built-in spout in the top area for easy opening and dispensing.

All six pouches are bottom filled simultaneously, utilizing a six-head system also developed by the contract packaging firm. [Continued on page 217]

Supplies and Services: "Scotchpak" polyester film 25A25 by Minnesota Mining & Mfg. Co., 900 Bush Ave., St. Paul 6. Contract packaging by Acepak, Inc., 7230 S. Chicago Ave., Chicago 19, using a Bell-Pak machine by The Bell Machine Co., 53 Jackson Dr., Oshkosh, Wis., and cartoner by R. A. Jones & Co., Inc., Covington, Ky. Cartons by Waldorf Paper Products Co., 2250 Wabash Ave., St. Paul 4.



Entire pouch-making operation occurs here. Rotary machine forms, fills, seals and severs packages. Polyester film from one roll (top) and a similar web from another roll are threaded between twin sets of vertical heat-seal rollers that divide and seal film into six vertical compartments. In the middle is a rotating bar that forms a horizontal top seal just before pouches are bottom filled. Vertical cutting wheels (bottom) sever pouches into "Siamese" twins or triplets and also slit pairs of trios for user convenience.

UPGRADED CARTONS

Fairmont Foods' handsome ice-cream packages use low-cost cylinder board, given superior printing qualities by a revolutionary new process of manufacture

> Quality comparable to fine Fourdrinier board at a cost kept down by the continued use of inexpensive paper stock is claimed for new ice-cream cartons made of cylinder board, adopted by the Fairmont Foods Co., Detroit, and now appearing there under the Chatham supermarket's private label.

The new cartons are important on three counts:

▶ They demonstrate a significant advance in the quality of economical cylinder board.

▶ They use an interesting art technique that turns two colors into a four-color effect.

▶ The resulting sales advantage successfully pits a regional brand against big-volume national brands dressed in four colors.

The six new Chatham pictorial ice-cream cartons combine fine art and design with screen shades of two basic colors to obtain their four-color effect. Accordingly, a board with an excellent printing surface was required.

The new board for Chatham's cartons offers such a printing surface. Its uniformity is a result of manufacturing improvements built into a new cylinder board-making machine, the first of its kind, that not only offers quality advantages, but also helps hold the cost line. Fairmont Foods is among the first packagers to use the product of the new machine and

Two-color cartons, now letterpress printed with a four-color effect, have printing quality heretofore considered impossible with cylinder-board stock, show end result of a new process of board manufacture. Low cost enables Chatham to compete in price with national brands of ice cream sold in four-color-printed pictorial cartons.

PHOTOS MICHIGAN CARTON



its impact on the cartonboard field may well be revolutionary.

Heretofore, cylinder board has had difficulty winning important consideration for ice-cream cartons that call for close uniformity and bending on highspeed machine operations.

Cylinder board, of course, has economy advantages over such boards as solid bleached sulfite made from virgin pulp because it combines less-costly materials in a series of layers—usually a back liner, filler, under liner and top liner. All but the top liner of this cylinder board can be made of less-expensive paper stock.

The layers are built up by a series of cylinders revolving through vats of paper stock, the stock being carried on felting as the board moves through the machine to drying rolls.

Until now, this method has produced board with fibres running in one direction. Uniformity of weight across the width of the board often showed wide variations.

The new cylinder board-making technique consists of an improved four-stock system and a new sevencylinder board-making machine. The formers on this machine eliminate weight variations. On the machine, slurried paper stock is forced onto each cylinder under pressure at a 35-deg, angle, compared with the conventional 270-deg, angle on older machines. This new technique results in producing a multi-directional fibre pattern.

Other manufacturing refinements—including such quality controls as a gamma ray board-weight checker—are reported to result in the production of a board that maintains more-uniform basis weight, caliper and moisture.

The better printing surface suits high-speed presses at the converting level and so permits delicate shades and even tone values that impart a look of quality to a two-color carton. The Chatham cartons are printed by offset lithography. However, according to the carton maker, the new cylinder board prints equally well by letterpress.

At the point of packaging, the board is said to have excellent folding characteristics, as well as good uniformity, a necessity for efficient running on ice-cream filling equipment that calls for close tolerances on the paperboard.

Supplies and Services: Cartons by Michigan Carton Co., 79 E. Fountain St., Battle Creek, Mich., using board produced on a new cylinder-board machine manufactured and installed at Michigan Carton by Beloit Iron Works, Beloit, Wis.

New board machine has seven panels which control seven cylinders revolving through vats of paper stock to produce the first cylinder board with multi-directional fibre pattern and lateral uniformity. Inexpensive stock thus provides board suited to high-speed handling in printing and packaging operations.



CLOSURES

Technology of the closure-manufacturing industry
has brought new convenience to consumers, advanced high-speed production
and added the glamour of colorful plastics

potency.

ver watch a mother open a jar of baby food and spoon it into Junior's mouth with unconcerned assurance that the product is positively safe? Or see a barkeep pop the cap off a bottle of beer, dexterously maneuvering the anticipated foaming head? Or see a doctor puncture the seal of a drug package with a hypodermic needle, completely confident of the efficacy of the contents?

Unrelated as these incidents are, they demonstrate the importance of the contribution that the closure industry makes to the success of packaging.

For without proper closures to complement the containers in which these products are packaged,

industry it serves. It is a captive industry in the sense that the sale of every closure depends upon the sale or use of a container to which it can be applied, whether the package be made of glass, metal or plastic.

Counted in units, the output of the closure-supplying industry is astronomical—something like 45 billion crown caps, 14 billion metal caps, 3 billion plastic closures—a total of 62 billion, exclusive of billions of paper and aluminum-foil caps for milk bottles, plastic caps for collapsible tubes, corks and other specialties. These spectacular figures—particularly for crown caps—are due in part to the multiple trips made by many glass containers, the average for soft-drink bottles being 25 trips; for beer bottles, 21.

the baby food could not be hygienically pure, the

beer wouldn't foam and the drug would lose its

several diverse units, currently rolls up an estimated

annual sales total of \$274 million, which is more

than a third as much as the \$784-million annual

volume of the glass-container industry, the major

The combined closure industry, which includes

Few packaging-supply industries have been called upon for more exacting technical specifications or a wider diversity of protective requirements—from crown caps that will hold 100 lbs. pressure in a carbonated beverage bottle to the handsome, decorative screw caps of colored and metalized molded plastics found on today's cosmetic and liquor decanters.

Progress in closure manufacture must ever be guided by two very demanding yet contradictory requirements:

- ➤ The seal must be positive, so that the contents cannot escape and no outside substances can enter.
- ► Consumers must be able to break the seal quickly

Molded plastic closures created a whole new approach to closure application, bringing new decorative touches to thousands of packages.

Molding machines like this one, as well as other types, are turning closures out today at the rate of 3 billion a year.



104

MODERN PACKAGING

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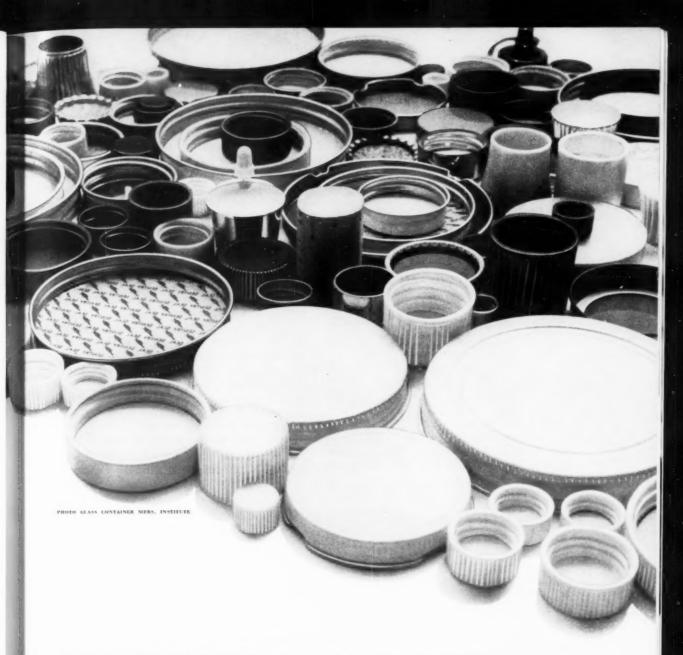
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and easily—and often be able to reseal the container many times.

One of the most noteworthy developments of the last few years toward meeting the challenge of these objectives is the rapidly growing acceptance of the twist-off lug cap that holds any desired degree of vacuum on glass-packed foods, one which can be applied economically at high speed and that also answers the long-standing consumer demand for a cap that's easy to remove and reclose.

The industry

Because of the inseparable relation between closures and glass containers, several large glasscontainer manufacturers today maintain their own divisions for the production of closures. For the same reason, the Glass Container Mfrs. Institute has taken under its wing the closure-manufacturing industry. Sixteen of its members are identified as closure manufacturers.

However, this does not give the over-all picture of closure manufacturing today. For it does not include a sizable number of firms outside the association, plus those which produce aluminum and paper closures. If all of these, plus the larger number of independent plastics molders producing closures, were included, the list would probably run into the hundreds.

The growth of the industry, which is today about 2½ times as large as before World War II, is due in large part to the increased use of glass containers for processed foods, made possible by the vacuum cap; the development of decorative molded plastic caps for the cosmetic, drug and liquor fields, and

countless new types of applicator closures, closures for use on squeeze bottles and closure assemblies designed for aerosol packages.

Trends and developments

Metal closures. This month the glass-container industry is celebrating the 100th anniversary of the Mason jar, the ancestor of all glass containers with tops that screw on.

Equipped with a metal screw cap in 1880, 22 years after it was born, the Mason jar is credited with opening the way to commercial packaging of processed foods in glass. But little headway was made, because of the difficulty of cap removal, until as recently as 1930 when the vapor-vacuum method of sealing glass jars with the pry-off cap was developed, boosting capping speeds to 100 per minute.

Continually higher capping speeds have helped to lower the cost of foods packed in glass until today rates of 300 to 500 per minute are common and there are baby-food lines running as fast as 800 per minute.

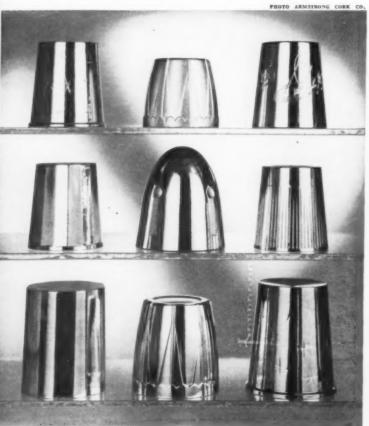
Along with increased speeds, closure manufacturers have effected many improvements through the development of more efficient gasket and liner materials. As a result, shelf life has been greatly extended, enabling food processors to take advantage of seasons of plentiful harvest to preserve foods for periods when crops are not so good.

The principle of the screw thread, adapted to glass finish as well as to certain types of metal containers, has permitted metal screw caps to replace many inconvenient and hard-to-remove corks.

Advanced techniques for printing, coating, spraying and enameling, developed by closure manufacturers, have given today's packagers a wide choice of decorative effects on metal caps that complement the package by the use of color or trademark design. Such effects are possible whether the caps are screw type (single or double wall), lug, rolled-on, crown, snap-fit, press-on or vacuum.

Plastic closures. A whole new approach to closure manufacture began with the appearance of the first molded-plastic screw caps on collapsible tubes about 1925. Since that time the industry has developed:

- ► The wide variety of stock-mold phenolic caps that have won such an important place in applications where efficiency and protection, plus economy, are more important than aesthetics.
- Molded-urea closures in the wide range of colors that add such pleasing decorative touches to packages for the cosmetic and drug industries.



Elegant metalized closures of plastic with debossed skirts are a big factor in providing the much-demanded luxury appearance for liquor packaging. Golden cap for Glenmore's Kentucky Tavern new fifth flask is designed to serve as a handy jigger.



- Numerous applications of polyethylene for molded fitments that provide dripless spouts, spillproof bottles, controlled squeeze-bottle sprays and many other dispensing devices to make packages easier for the consumer to use.
- ► Elaborate decorative plastic closures with debossed skirts and metal-plated or sprayed surfaces, now so widely demanded for liquor decanters.
- ► Snap-on lids for polyethylene, polystyrene and paper containers so popular for the packaging of prepared salads, cottage cheese and ice cream.

Liners. No discussion of closures would be complete without special mention of liners—the materials whose surfaces contact the product and actually accomplish the seal once container finish and closure surface have been brought together with sufficient force.

The search for liner materials goes on, but there is not and probably never will be a universal liner—one capable of handling every product and sealing problem. One of the closure industry's outstanding accomplishments has been its ability to tailor liners to an infinite variety of exacting product requirements. And there apparently is never-ending study to find new lining materials at lower cost, with greater resistance to chemicals and water-vapor transmission.

Important advances have been made by the use of waxes and resin compounds in combination with paper and aluminum. Some of the more recent successful liner materials are the thin vinyl-coated aluminum facings, saran coatings and 1½-mil polyethylene-on-paper facings laminated to pulp. These are relatively low cost with good white appearance and good chemical resistance for most products.

Standardization. Packagers have benefitted greatly from the cooperative efforts of closure and glass-container manufacturers through the Glass Container Mfrs. Institute to develop recommended standards for glass-container finishes. (The "finish" of a glass container is that portion to which the closure is affixed.) Standardization of finishes not only provides the close tolerances that mean better seals, but is essential for efficient operation of today's increasingly higher-speed capping equipment.

What's ahead

Obviously, the closure industry can progress only with the growth of container industries that require its production. Realizing this, it is dedicated to the development of more efficient closures that will increase acceptance of such containers. Much of this, of course, is dependent on what can be produced within the economic limitations of users.

Much talked about, for instance, is a more con-



Easy-to-open lug caps that hold any degree of vacuum on glass-packed foods are one of the closure industry's recent noteworthy developments, answering a long-standing request for more convenient removal and reclosure.

venient, safe, reclosable cap for baby foods. Such a cap is feasible, assuming it can give the same positive protection as the present pry-off cap. But are food processors and consumers ready to absorb its added cost? Heinz has test marketed baby foods in a glass jar with an aluminum screw cap fitted with a ring gasket. The closure industry is watching this development closely, not only for its consumer acceptance as a new means of furnishing a safe, reclosable jar—the first requisite for baby foods—but from the standpoint of production economics.

The continued rise in the price of steel in contrast to the downward price trend of certain plastics may intensify thinking and research in plastic closures.

Development of plastic bottles to compete on an equal price basis with metal cans may also have a far-reaching effect on future closure manufacture, creating completely new outlets as have the closure fitments for aerosol packaging.

Whatever the trends, the closure industry is ready to meet the challenge as competition in user container industries demands it.



Saran-wrapped wine bottles

A transparent, orange-tinted saran-film overwrap provides the merchandising sparkle that is calculated to upgrade the shelf appeal of bottled citrus wines produced by the Charles M. Pool Co., Clermont, Fla. According to the bottler, retail sales of the products in the new "glamour wrap" already are showing an increase.

The company points out also that it is expanding its distribution to a national basis. Therefore, it is counting on the distinctive wrap—which represents a novel technique in wine merchandising—to help stimulate introductory sales.

Saran was selected as the bottle overwrap for its inherent characteristics of sparkling clarity, strength, toughness and great flexibility. Product protection, as such, was not a determining factor. Even with the film's orange tint, the company says, the paper label on the bottle is easily readable. And the properties of strength and toughness minimize the problem of film cracking during shipping or other handling. As a bonus factor, the film overwrap keeps the bottles clean and fresh looking during shelf storage. Saran film by Dow Chemical Co., Midland, Mich.

DESIGN

Dominant trademark for hospital chemical



A powerful trademark design, featuring a dominant letter "S," gives strong identity to a package family for Sodasorb, a granular chemical used in hospital anesthetic equipment to absorb the patient's exhaled carbon dioxide. The basic label design was developed by Dewey & Almy Chemical Co. for a new, convenient-sized and protective paper-foil-polyethylene bag. For the purpose of brand identity, it has been carried over to the 5-gal. pail and 1-gal. can in which the product also is marketed.

The new flexible bag holds just enough of the chemical to fill the 1,640-cc. anesthesia canisters generally used. It is discarded after one use, eliminating the restorage problem, the company points out.

Made of kraft paper bonded to aluminum foil with an inner coating of polyethylene, the bag is reported to be impermeable. This is a critical requirement, because the product's effectiveness is diluted if moisture is allowed to escape or carbon dioxide to enter during shelf storage. The inert polyethylene coating also prevents chemical reaction of package with product. "Canister Pak" bag by Continental Can Co., Flexible Packaging Div., Mt. Vernon, O.

One bottle, two appeals

The new glass bottle for Mead Johnson's Natalins prenatal vitamin-and-mineral tablets is designed to project the somewhat divergent connotations of pharmaceutical achievement and femininity. The bottle—which has a broad base to prevent tipping and a wide mouth for easy removal of the tablets—is in the shape of an Erlenmeyer flask, one of the earliest glass vessels used in the laboratory. It symbolizes the role of research in the development of pharmaceuticals. For feminine appeal, a ceramic lace decoration in white is silk-screen printed around the bottle's neck.

The company reports that its new bottle will eventually be adopted as the container for a wide range of pharmaceutical products in addition to prenatal tablets.

A white-colored urea screw cap is ribbed for easy removal. Embossed on the top surface of the molded cap is the company's trademark—a flame within a square. The trademark also appears on the bottle's printed paper label. Bottle design by Don Dailey & Associates, Evansville, Ind. Bottle and closure by Armstrong Cork Co., Lancaster, Pa. Paper label by Keller-Crescent Co., Evansville, Ind.



HISTORIES

Redesign for economy, identity and shelf appeal

Strong shelf appeal and sharp family identity are the twin aims of a package-redesign program by the Spice Islands Co.. San Francisco. The company, which markets a wide variety of tea blends in square-shaped, metal-end fibre cans, reports that substantial packaging economies have been achieved by using only three basic colors in its new design, compared with 17 for the former line of packages.

Basic can-label design is a tea-leaf-and-blossom sidepanel border, printed in gold and black on a white background. (Because it was also used on the company's previous packaging, this design element is calculated to promote carry-over brand identity.) For fast product identification within the line, each type of tea is identified by name and by a distinctive symbol, printed in Chinese red, set in the center of the panel. The design is identical on three side panels, for display convenience and for easy reading by shoppers.

Snap-on recessed metal lids permit the cans, which are offered in various sizes, to be reclosed securely after first use for flavor protection. Wrap-around paper labels and design by H. S. Crocker Co., Inc., San Bruno, Calif. Fibre cans by R. C. Can Co., 9430 Page Ave., St. Louis 14.



Automation is not just

Sinclair competes in billion-dollar detergent field with a \$60,000 investment in fully automatic can-packaging line that has tripled output of seven-man force

You don't have to be an industrial giant to profit from an automated packaging line. In a business boasting billion-dollar giants, the Sinclair Mfg. Co., Toledo producer of detergents, bleaches and chemicals, successfully emulates its big competition with an up-to-date 200-units-per-minute line that has reduced costs, increased efficiency and sales, and helped maintain rigid quality control on a sales volume of \$2.5 million a year.

Compared with a \$10,000 investment in a previous semi-automatic packaging line that comprised slower and principally second-hand equipment, Sinclair's new automated line cost \$60,000, exclusive of product-mixing equipment. The company held down this modernization cost by purchasing standard packaging machinery modified only by the use of such special materials as stainless steel and polystyrene parts wherever there is contact with the liquid product.

Sinclair executives know this investment is worthwhile because the product's high sales volume is attributable to its relatively low retail price. This was made possible by the creation of an efficient one-shift packaging operation that reduces labor costs to below 4% of total sales, compared with an estimated 6% or 7% on comparable non-automated lines.

And the labor saving is not at the expense of plant labor itself. It results from stepped-up production. The same seven-man crew that formerly turned out 19 cases per manhour (12-oz. containers) now produces 51 cases per manhour and is able to handle even peak volume of the company's complete line without depending on uncertain part-time help. Moreover, with increased sales, Sinclair has scaled down its amortization schedule for this new packaging equipment from an expected pay-out of five years to about three years, an unanticipated dividend from this modernized automation. The equipment's expected useful life is 10 years.

One of the first companies to market a liquid dishwashing detergent, Sinclair introduced "Sprite" in 1948 and last year added "Coral," another dishwashing liquid, which is being distributed in the eastern area of the United States. The company packs no private-label brands. Coral is sold in 22-oz. and 1-qt. cans and Sprite is marketed in 22-and 12-oz sizes. The five-color-lithographed cans have cemented side seams, no-drip polyethylene pour spouts and polystyrene measuring caps.

The system

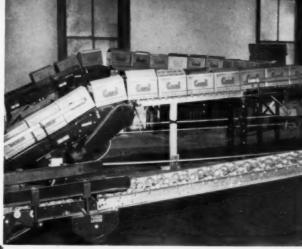
In the seven-man crew, only five men are actually directly connected with packaging from supply infeed to case take-off. Re-usable corrugated cartons holding empty cans are stored on the second floor of the plant, where one operator supplies containers to the packaging floor below through use of an automatic conveyor system that completely encircles the storage floor.

The cartons of empty cans are conveyed to an operator at an unscrambling station on the first floor. He up-ends the cartons to place cans right-side up on a mesh-screen conveyor. He then drops the empty container onto a roller conveyor fitted with guide rails that hold flaps in an open position until they reach the end of the packaging line for



Produced at 200 a minute is Sinclair Mfg. Co.'s Coral, a dishwashing detergent now being marketed in a five-color-lithographed can with cemented side seams, a no-drip polyethylene pour spout and a polystyrene measuring cap.

for giants

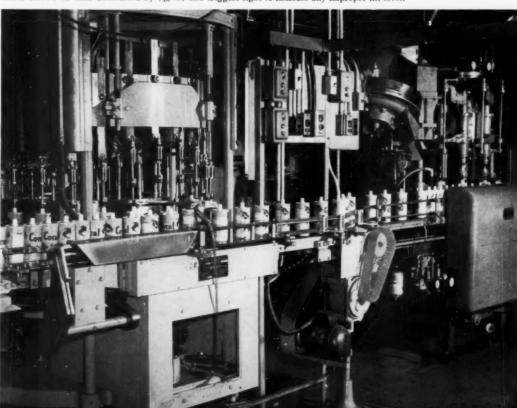


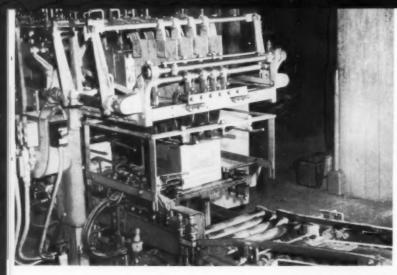
Empty cans in re-usable corrugated shipping containers are stored on the second floor and circuit by a single operator around the can-storage area and down to the packaging floor below.



Dumping on table leading to unscrambling machine is last hand operation. Empties move on conveyor, foreground, to end of packaging line. Guard rails keep flaps open for repacking.

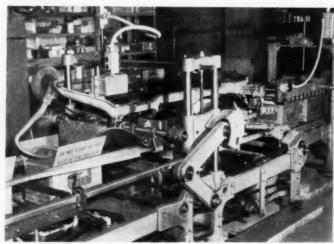
Compact filling line incorporates 36-head, rotary vacuum filler, capper and X-ray inspection machine. Latter throws off cans underfilled by ½6 in. and triggers light to indicate any improper fill level.





Automatic casing involves lifting carton to enclose cans, then dropping it to moving conveyor.

Case sealing is automatic, closing and gluing at 625 per hour. Inclined elevator at rear takes cases to upper floor, where they are palletized and moved by fork-lift truck on way to shipping dock or warehouse.



repacking with filled cans. From the unscrambling to the palletizing station, the cans and boxes are handled entirely by automatic equipment.

Cans are conveyed single file to a 36-head rotary vacuum filler that runs at the 200-cans-per minute rate. As each can is picked up and carried around the filler, a filling tube descends into the can as the product level rises, to avoid turbulence and aeration which would cause foaming.

Filling nozzles are withdrawn at the end of the rotary cycle, where a guard pan catches any dripping and feeds it back into the supply tank.

Filled cans travel to a pneumatic air-chuck capping machine that spins on the polystyrene caps with a closely adjusted torque.

Beyond the capping machine, cans pass through an X-ray fluid-level checking device that focuses a beam at the exact fill line. If cans are underfilled by as little as $\frac{1}{10}$ of an inch, an air blast kicks the can off the line. Overfilled cans are permitted to pass, but they activate a flashing light to indicate a filling-head adjustment is required. Virtually all production meets this rigid automatic inspection.

Last stop is the automatic cartoning and sealing. A case load of cans is grouped and then dropped simultaneously into the carton on a conveyor platform beneath. The conveyor rises half way to meet the cans, then descends and sends the filled case on its way.

Cartons run through an automatic glue sealer at the rate of 625 an hour. They are hand placed on a pallet that is taken by a fork-lift truck to trailer trucks or a warehouse.

Containers are coded to indicate filling date and both raw materials and finished products are subjected to rigid daily laboratory controls.

Supplies and Services: Filling machine by U. S. Bottlers Machinery Co., 4015 N. Rockwell St., Chicago 18. Capper by Pneumatic Scale Corp., Quincy, Mass. "Hytafill" X-ray unit by General Electric Co., Schenectady. Case filling and sealing equipment by Standard-Knapp, Div. Emhart Mfg. Co., Portland, Conn. Cans by American Can Co., 100 Park Ave., New York 17. Corrugated cartons by Hankins Container Co., 14801 Emery Ave., Cleveland 11. Warehouse floor conveyor by Rapids-Standard Co., Inc., Grand Rapids 2.

Ciba's flip-top box

Can one industry get packaging help from another? In this case a drug company not only borrowed the flip-top box idea, but also the cigarette firm's machinery



Ready-made popularity of the familiar flip-top box, Ciba believes, will have a decided promotional advantage for over-the-counter drug product. Each of the boxes contains four foil-laminated unit packs of six lozenges.



Gravity-feed dispenser, made of full-colorprinted paperboard, gives impulse appeal to the new throat lozenge.

ere's a stand-out example, not only of borrowing ideas, but of direct cooperation between packagers in two unrelated industries—to the extent that one was even willing to let the other run off 2,000,000 packages on his own machinery, despite the obvious handicaps to his production schedule.

The story begins with the development by Ciba Pharmaceutical Products, Inc., of a new non-prescription throat lozenge called Bradosol. Mulling over ideas for the perfect package for this product, the company decided on flip-top boxes such as are used in the cigarette industry. Ciba felt that this type of pocket package, because of its wide popularity, would have a built-in promotional advantage in a highly competitive field.

There was one big problem. The company did not have the machinery which is required to run off flip-top boxes.

Larry Zahn, director of Ciba's Methods and Packaging Development Div., took the problem to one of his good friends in the cigarette industry. After discussing the problem, he was invited to run the big initial order on the cigarette-manufacturer's own special machines, even though it meant interfering with the latter company's packaging production schedule.

Ciba might install the flip-top-box machinery in its own plant if this type of package wins consumer acceptance. But, before the company made such an investment, Mr. Zahn wanted to know if there was a place for the package in its product field.

The present plan is for the preprinted Bradosol box blanks to be shipped to the cigarette firm for set up, then to Ciba's own plant for hand filling with four foil-laminated unit packs, each containing six lozenges.

An interesting angle is the fact that, although the flip-top-box machine was designed for cigarettes, to build the box around the contents, in Ciba's case, the box (formed the same way) is set up empty.

This, according to Mr. Zahn, poses no special problems except that the machine must be run at slightly slower speeds.

The new Bradosol flip-top boxes are being merchandised in convenient, self-dispensing, gravityfeed, full-color-printed paperboard display units similar in design to those developed for several other products in the Ciba line.

Supplies and Services: Box blanks printed by Milprint, Inc., 4200 N. Holton St., Milwaukee 1. Forming machines by Molins Machine Co., 1716 Summit Ave., Richmond 21, Va. Display by Einson-Freeman Co., Inc., Starr & Borden Aves., Long Island City 1. N. Y. Unit packaging by Ivers-Lee Co., 215 Central Ave., Newark 3, N. J.

SUSPENSION THERMOFORM



Suspended in dome by means of pockets formed in acetate sheet, razor appears to "float" in package, yet is securely held in place. Dome is formed in two pieces electronically welded. Interlocking recesses secure dome to flocked base.

Side view shows contour of formed pockets that anchor razor in dome and engage with top of blade package,

New method encasing Gem razor in transparent dome suggests widespread possibilities

for presentation packages that show off product from all angles

An entirely new concept in thermoforming brings the principle of the fascinating glass bell jars that protected French clocks and decorative stuffed birds in Grandma's parlor to modern counter display packages of transparent plastics, as adopted by the American Safety Razor Co. to introduce its new Gem Push-Button razor. The technique could open up many possibilities for presentation packages in the cosmetic, jewelry and personal-products fields.

The new development could well be called "suspension packaging," because the packaged object seems to be suspended in air. It may be seen from all angles while it is suspended vertically in a transparent sheet-plastic dome, which locks into recesses of a formed, flocked base made in two pieces.

The dome is made by forming two pieces of 0.015-gauge transparent acetate sheet, each with specially contoured pockets, and electronically welding them together on three sides to make a dome. This permits the razor to be snapped into the pockets so that when in place it appears to be "floating" in the dome. The final package is not only ornamental but functional, in that the razor stays securely in position for shipment and counter display.

And in contrast to cementing the domes together, the electronic seal, which gives strength to the package, also adds to the appearance because of the designs that can be incorporated into the weld. Lettering or almost any kind of sculptured design can be embossed around the forming.

The domes are equipped with additional ovalshaped formed recesses near the bottom on front and back, providing a locking device when they engage with similar opposing projections on either side of the base unit. This permits the package to be opened and reclosed. Slight pressure on the sides of the dome, enables removal of the razor from its housing. The use of red flocking on 0.025-gauge impact

The use of red flocking on 0.025-gauge impact polystyrene gives a soft, velvety appearance to the base at economical cost. Recesses in the base are designed to hold a package of razor blades snugly and to provide a rest for the razor handle. The top of the blade package engages with another forming on the rear side of the dome securing this item firmly. The base is reinforced by a third forming of black 0.015-gauge impact polystyrene inserted and cemented into the red-flocked forming.

The package was developed to give strong impulse appeal to the new Gem razor. The initial order was for one million packages. They reportedly can be turned out at a rate of 15,000 to 20,000 per day.

Other ingenious aspects of this packaging program are the wire display rack for the packages and a specially designed corrugated shipping container for the entire display unit. The wire rack is engineered with prong-like arrangements to hold a dozen of the plastic display packages on four different levels, yet takes up not more than 8 by 12 in. of counter space. The display is shipped assembled and ready for the dealer to place on the counter once he removes it from the carefully planned shipping container. Inside the shipper the entire unit rides in a corrugated suspension pack. The dealer removes the suspension pack, on which the opening instructions are printed. After removal of the interior diecut and scored divider pieces that protect each individual package, the display is ready for the counter.

Supplies and Services: "Showplax" vertical thermoform package developed and produced by Plaxall, Inc., 5-26-46 Ave., Long Island City, N. Y., using acetate sheet by Celanese Corp. of America, Newark 5, N. J.; polystyrene supplied by Gilman Bros. Co., Gilman, Conn., and flocked by Nashua Corp., Nashua, N. H.; and black impact polystyrene by Raritan Plastics Corp., Paterson, N. J. Display rack by Melrose Wire Co., Passaic, N. J.

PUSHBUTTON RAZOR
NO BILL TIPOUR BLACKS
S 1 Sept.

For counter display, packages are held in place by wire prongs, making it easy for the shopper to slide package out of this convenient unit that takes up a minimum of counter space.



Packaging

Pageant

2



3







- 1 The Formfit Co. has adopted printed stretchable vinyl loops to merchandise a self-selection combination offer of its foundation wear. Copy on the loops, which slip over two or more of the garments to bundle them, calls attention to the special offer. The loops, which are not adhesive, are easily removable to return the products to regular stock. "Rapid Ribbon" loops, Chicago Printed String Co., Chicago.
- 2 A one-shot metal can containing exactly enough "Oilzum" motor oil to fill the 2.5-liter (2.64 U.S. quarts) capacity of foreign-car crankcases has been introduced by The White & Bagley Co. The company points out that the exact-capacity, lithographed can prevents overfilling and eliminates waste. Can, American Can Co., New York.
- 3 Nestle-LeMur is introducing its Colorinse hair-tint powder in a new four-color-printed carton containing six polyethylene-coated, wax-laminated glassine pouches, heat sealed in a continuous strip. The protective, printed pouches—each containing the proper amount of product for one rinse—prevent sifting, moisture absorption and caking. Glassine lamination by Riegel Paper Corp., New York, and Thilmany Pulp & Paper Co., Kaukauna, Wis. Carton, F. N. Burt Co., Buffalo.
- 4 Individual cellophane packages stapled in two vertical rows on printed self-selection merchandising cards are reported to be winning consumer acceptance for Marlenn Products' Lucky Pine and Lucky Rose air fresheners. The cellophane packages were adopted for their fragrance retention as well as for transparency, the company says. Cellophane, Olin Mathieson Chemical Corp., Film Div., New York. Printed cards, Hayden Colorcraft and Maurice Meyers Co., both Baltimore.
- 5 Dazzling shelf appeal and stronger brand identity are the aims of a can redesign for Ehlers coffee. The keyopening vacuum cans now present the company logo in a metallic blue color against a gold-bordered white oval. Background color on the can for regular-grind coffee is metallic azure blue. For extra-fine grind it is metallic crimson. Design, Egmont Arens, New York. Cans, American Can Co., New York.

10

- 6 A vacuum-formed polystyrene-andacetate tray in a printed paperboard sleeve makes up Northrup King's "Punch 'n Gro" seed-starter kit. The durable polystyrene tray contains 36 marigold seeds in a special growing formula. The acetate lid, which prevents product spilling, has 18 indentations on its surface, which are punched out by the consumer so seeds can be watered. The package won a gold award in the recent Variety Store Packaging Competition. Seed container, Mankato Paper Box Co., Mankato, Minn., using Campco acetate and polystyrene. Sleeve, Stecher-Traung Lithograph Corp., Rochester.
- 7 Marlin Firearms Co. pulls a switch in the repackaging of its Micro Vue rifle scope. The new "quality appeal" folding carton, printed to look like stitched leather, contains minimum top-panel copy. It is in sharp contrast to the former telescoping box, which featured detailed product data and an illustration of the scope mounted on a rifle. Design, Avison Studios, New York. Carton, National Folding Box Co. Div., Federal Paper Board Co., Bogota, N.J.
- 8 Polyethylene film bags with colorful, extruded-in stripes add extra sales appeal to Prima women's shoes. According to the film supplier, the permanent stripes are formed in the extrusion process by fusing several different color streams of material within the die. Bags, Borden Hively, Columbus, O., using U.S. Industrial Chemical's "Petrothene."
- **9** Ronson Corp. combines the appeals of glamour and product visibility in the new fabric-covered oval paperboard set-up box for its Lady Ronson electric shaver. A transparent ethyl cellulose window in the container displays the product mounted on a blue, vacuum-formed flocked polystyrene platform. Box, F. N. Burt Co., Buffalo, using Dow's "Ethocel" for the window. Platform, Nashua Corp., Nashua, N. H.
- 10 Plastomatic Corp. is using a cellophane overwrap for its tray packages of Date Pak home freezer containers. Besides protecting the product, the company says, the transparent wrap permits shoppers to examine a dial feature and a maximum-storage-period chart on the















12





13





16

bottom of the paperboard tray. Cellophane. American Viscose Corp., Film Div., Philadelphia. Printed tray, The Lenhart Press, Inc., Norristown, Pa.

Birge Co.'s Fabrique wall coverings pre-wrapped with printed cellophane. The brand name, in yellow and white, appears four times on the wrap's charcoal-gray background. Printed cellophane, Milprint, Inc., Milwaukee.

17

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- 12 Andrew Jergens Co. introduces its Moisture Cream make-up base in 2-and 4-oz. glass jars contoured for easy handling as well as for dressing-table glamour. Paper labels, printed in white and blue with gold-colored borders, conform to the curves of the containers. Jars and caps, Anchor Hocking Glass Corp., Lancaster, O. Labels, The Nielsen Lithographing Co., Cincinnati.
- 13 Injection-molded, disposable polyethylene containers with heat-sealed caps keep "Monoject 200" hypodermic needles sterile and sharp up to the instant of use, says Roehr Products Co. Molded lugs formed inside each container keep the needle solidly in position. The sealed containers are sterilized. Polyethylene, Eastman Chemical Products, Inc., Kingsport, Tenn.
- 14 Lentheric subtly suggests the unbreakability of its new travel container for Tweed cologne by packaging it in a box printed with replicas of foreign postmarks. The "Vagabond" container is a metal cylindrical case into which is fitted a glass flacon filled with the product. Parisian and tropical scenes printed inside the gatefold flaps of the folding box are calculated to put across the travel motif in retail display. Folding box. Arkay Press, New York. Metal container, Flaconette Co., New York. Cap. Mack Molding Co., Wayne, N.J.
- 15 This easy-to-reclose, twist-top bag for Swan Bros.' Holsum rye bread is made of 34-mil linear polyethylene. A white, brown and orange package design leaves ample unprinted space to view the product through the sparkling-clear film. According to the company, the bag offers savings in material costs and good product protection. "Conolex" bags, Continental Can Co., Flexible Packaging Div., Mt. Vernon, O.

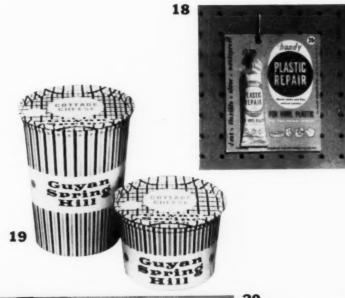
- A polyethylene-coated-paper and cellophane pouch has been adopted by Pass & Seymour as a protective self-selection package for electric switch plates. The unprinted cellophane side of the heat-sealed pouch offers product visibility. The printed paper side carries brand copy and promotes other products in the line. Pouch paper, Thilmany Pulp & Paper Co., Kaukauna, Wis., using Eastman's "Tenite."
- 17 Fine tonal quality of direct full-color printing on the surface of wax-coated frozen-food cartons is illustrated by realistic pictorials on packages adopted by Stokes Canning Co. for three new fast-food products. Different carton-background colors help identify each product. Cartons, Marathon, Div. American Can Co., Menasha, Wis.
- 18 A carded blister pack is aimed at winning self-selection shopper attention for The Handy Product Corp.'s 1-oz. metal tube of liquid sealer for repairing vinyl products. The printed hang-up card is big enough to discourage pilferage of the tiny metal tube. Tube, A. H. Wirz, Inc., Chester, Pa. Contract packager, Tubed Chemicals Corp., Easthampton, Mass., using Bakelite vinyl for the skin pack. Printed card, Boxmakers, Inc., West Springfield, Mass.
- 19 Design on the cup packages for Guyan Spring Hill Creamery's cottage cheese is calculated to attract shopper attention both from long distances and as she stands over the dairy case. The package is printed in colorful red and blue vertical stripes, with the brand name in large lettering. The lid, which contains product data and a repetition of the brand name, has a red-and-blue plaid design. Cup packages, Potlatch Forests, Inc., Paper Cup Div., St. Louis. Lids, Sterling Seal Co., Erie, Pa.
- 20 "Zipper-opening" tops add the attraction of re-use appeal to heavy-gauge polyethylene bags for Metric Hosiery Co.'s "Our Own" line of socks. Printed paperboard inserts have tabs that protrude through the opening so the bags can be hung on self-selection racks. Design, Raymond Loewy Associates, New York. "Zip-Lip" bag, Kennedy Car Liner & Bag Co., Shelbyville, Ind. Printed insert, Seaward Edison Corp., New York.



17

Packaging

Pageant





20





Compatible with table decor is Sterling's new shake-or-pour fibre canister for salt. Easy-to-grip package has a glossy, copper-colored label that suggests the trend toward the "non-commercial look" in food packaging. Above is a top view of the canister, showing its dial-type polystyrene closure. The center portion turns one way for shaking, the other way for pouring.

Double-duty canister

Sterling Salt's slender 1-lb. fibre can with rotatable polystyrene dispensing closure is designed for housewives who want it big enough for cooking use, small and handsome enough for mealtime table use

f consumer acceptance is the ultimate yardstick of any package-redesign program, the "healthy sales" success reported by International Salt Co. since introducing its Sterling brand salt in a slim, convenient canister designed for both cooking and table use is ample testimony to the wisdom of packaging revaluation from the shopper's point of view.

International's new package—a 1-lb. fibre canister with a shake-or-pour polystyrene dispensing closure—had its beginnings three years ago at this company's Scranton, Pa., headquarters. There, a team from sales, engineering, purchasing, advertising and merchandising was assigned to develop a package that would be versatile and convenient.

The first decision was that the new package must be big enough so housewives could use it in cooking, small and attractive enough to double as a meal-time salt shaker. A 1-lb., round, fibre canister 6 in. high (developed by the company's supplier) was selected as the optimum size. The team agreed it would be easier to grip than the standard 26-oz. package and that its tall, slim appearance would give it the advantage of looking well on the table. Smaller packages were rejected on the ground that they would have to be re-purchased too frequently.

With the matter of convenient size settled, the team then turned to the problem of convenient dispensing. After several false starts, a two-piece, dialtype polystyrene closure was adopted. Located flush on top of the canister, the rotatable "shake-'n-pour" fitment has a large hole for pouring on one side, 10 small holes in a tight scatter pattern for shake dispensing on the other.

The final step in the redesign was selection of a new label. Because the canister is intended as an informal table accessory as well as for cooking use, it was necessary to develop a label that would be pleasing to the eye. Working with its designer, the company chose a simple, three-color format with minimum copy. A high-gloss copper background color (adopted as "most suitable to blend in with today's kitchen decors") is split into three horizontal panels by two serrated yellow bands. Label copy is in white, with the word "iodized" printed on a diagonal red bar for the canister containing iodized salt. The back of the label is similar to the front, except that the promotional phrase "brings out the best in food" replaces the word "canister."

Supplies and Services: Fibre can by American Can Co., 100 Park Ave., New York 17. Polystyrene closure by Pittsburgh Plastics Corp., New Castle, Pa. Paper label by Richardson Taylor-Globe Corp., 4501 W. Mitchell Ave., Cincinnati 32. Label design by Jon Lindstrom, Amityville, Long Island, N.Y.

Saving product, saving film

New England candy company shows the way to new economies for pouch packers with high-precision cantilevered scale and a new thin-line impulse heat sealer that saves nearly 7% in material

n a single stroke, a New England candy firm has reduced the tolerance of net weights on its line of bagged candy and cut down the amount of film needed for pouches by almost 7%. The principles involved will be of interest to all packagers using pouch forming, filling and sealing machines.

Edgar P. Lewis & Sons, Inc., Malden, Mass., has accomplished this double cost reduction by adopting a machine for polyethylene pouch packaging that incorporates (1) a new type of cantilevered scale for more precise weighing and (2) an impulse sealer equipped with a cold-wire cut-off which achieves a hairline seal at the very edge of the pouch, so that previous film waste in seal and end areas is practically eliminated. The latter saving is

said to amount to at least 6.6% of the film area.

The cantilevered scale eliminates conventional knife-edge pivot points, which are subject to rapid wear, and substitutes a series of bending leaf springs and a spring-actuated roller that reduces friction to a minimum. Coupled with an accurate dribble feeder, this scale keeps very close net weights over a long period of time without heavy maintenance. And despite the elaborate feeding and weighing mechanism, there is no reduction in operating speed, since this new twin-head unit fills and seals polyethylene pouches at the respectable rate of 65 per minute.

By substituting a ribbon sealer for the conventional bar type, then cutting the plastic packages apart with a hair-thin steel wire, the packaging ma-

Economy in film is dramatized by this comparison of polyethylene pouches with identical inside dimensions but old and new seals. Placed against a background ruled with lines 1 in. apart, the extremely thin \(^1\)-in. seals at ends of Lewis pouch for Rainbow Candy Rolls contrast with the \(^7\)-in. seals on the Harvest Creams pouch, packed by the same company on a conventional machine. New thin-line sealer saves this company 7 sq. in. of film per pouch.



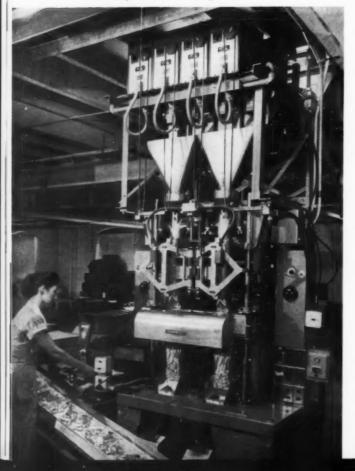
chine reduces the width of the seal area from the conventional $\frac{7}{16}$ in. to a mere $\frac{1}{8}$ in.—with no loss of seal strength. In fact, when forced by hand, the polyethylene film tears before the seal does.

Weigh and fill

Candies feed from a conventional hopper into two successive vibrating pans to even out product flow. At the start of the secend pan (see sketch drawing), a gate and platform divide product flow between the main feed trough and a special, tapered dribble trough that parallels the main trough down one side of the pan.

At the start of the weigh cycle, the main brush gate is open and flow from the dribble trough is deflected into the main weigh bucket. The candies drop into the weigh bucket up to a pre-set point, close to the desired net weight (for example, 15 oz. on a 1-lb. net weight). At this point, the main gate closes and the dribble deflector flips open, allowing the one or two extra pieces of candy needed to complete the weight to fall into the hopper. To speed weighing action and to account for unweighed candies that

Pouch packer has new weigh scale on top, new end-sealing mechanism under hood near the bottom and electronic controls on its right-hand panel. Loop chains (top, center) are for easy hand adjustment of net weights.



may be in mid-air when final weight is made, the product from the dribble trough does not fall into the deep main weigh bucket at this time, but into a small compartment located near the top and on one side of the main hopper. But the contents of both the main and the dribble hoppers are weighed together because one is inside the other.

When full weight is reached, the dribble deflector is closed and two gates on the weigh bucket open to discharge product from both sections of the weigh hopper into the filling-machine chute.

The solenoid switches employed for these actions retract when energized, thus allowing the gates to open. Spring loading of the gates and the unique wiring system prevent damage to solenoids in the event of a product jam-up. The weigh-hopper gates are opened by rotary solenoids (not shown in sketch) which are also protected from product jams.

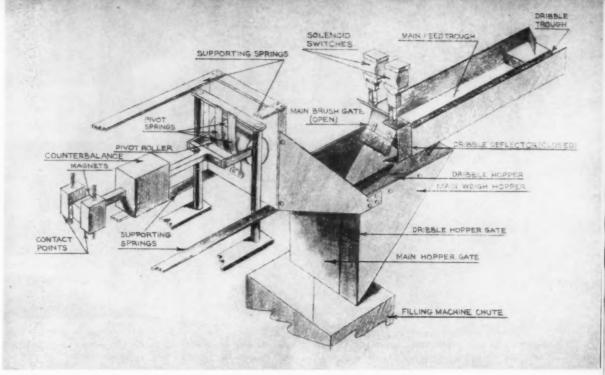
Heart of the weigher is the cantilever system that supports the two-section weigh bucket and controls the weighing action. The weigh bucket is attached by extension arms to an aluminum casting fastened to the machine frame by four horizontal supporting long leaf springs. These springs prevent side sway and deflect continuously as product is added to the weigh bucket.

A vertical, flat pivot spring connects the aluminum casting to the cylinder or roller, which rests against the casting. Two other vertical, flat pivot springs are attached to the opposite side of this pivot roller and also to a rigid mounting on the frame of the machine.

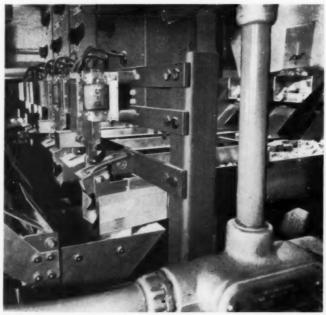
As the weigh bucket sinks, these three flat pivot springs flex and cause the pivot roller to rotate slightly, moving a counterbalanced arm. This slight rolling action of the cylinder is the only friction point in the entire scale.

Weighing is controlled by two small magnets at the end of the counterbalanced arm. These swing freely between two housings containing glass-enclosed electrical contact points. There is no physical connection between the parts, but the magnets activate and de-activate the switches as they pass. One contact point controls action of the dribble feed; the other, the main product stream. Because the housings are mounted on screws, they can be individually raised or lowered by manual, chain-driven gears for extremely fine weight adjustment. Grossweight adjustments are made by balancing out the system with conventional brass weights.

The electronic controls and springs eliminate the usual dampeners and the [Continued on page 210] Supplies and Services: "Transwrap" Model B packaging machine by Package Machinery Co., East Longmeadow, Mass. "Visqueen Q" polyethylene film by Visking Co., Div. Union Carbide Corp., Terre Haute.

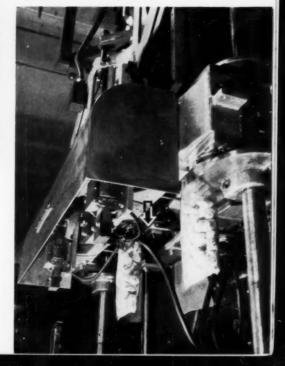


Economy in weighing is accomplished by cantilever scale and associated product-feed mechanism shown in sketch. Product flow is from right to left, from main feed and dribble troughs to weigh bucket (middle). Support and pivot springs (left) flex with product weight to actuate controls.



Solenoid-actuated gates above the weigh buckets control product flow from right to left. Dribble deflectors for final precise weight control are closest to camera over each of the weigh buckets. Spring-loaded triggers for the bucket gates are located at the left in this photo.

Worm's-eye view of end-sealing mechanism shows Teflon-coated backing plate (arrow) and solenoid switches that activate the cold-wire cut-off device. For the purposes of this picture, the machine was halted in mid-cycle, before full pouch could be cut by wire and deposited onto take-away conveyor.





Ample printed areas are needed to inform shopper and convince him he needs items he may not have heard of before. Cards, with polyethylene bags, staples, special die cuts and pressure-sensitive labels, help solve Renard's selling problems. Paper insert (right) identifies bird-cage cover that might be mistaken for utility bag or appliance cover.

Carding the hard-to-handle

Low-cost packaging that gets unusual items on the counter and tells shopper what they're for builds flourishing business for Renard in pet and plant accessories

Around the country are hundreds of firms making oddities and novelties whose sales success depends on low-cost packaging that must get these hard-to-handle items on self-service counters attractively and in a way that must inform the shopper what they are to be used for.

Of interest to such firms is the experience of The Renard Co., Yonkers, N. Y., whose carded display packages have been largely responsible for building a flourishing business in pet and plant accessories.

Renard has developed an entirely new business during the last 10 years with the booming sales of household pets and plants. Pet fish, pet birds and all kinds of house plants require accessories for their care. In an unpackaged state, however, many of these items—plant fertilizers, fish-tank and bird-cage equipment—are frequently somewhat less than appealing; much less can they convey by appearance alone what they are to be used for. Most of them are small in size and sell for less than a dollar.

The objective is to get them into some kind of packaged form that will make them attractive for the counter, explain their use, discourage pilferage, protect them for shipment—and at a cost low enough to provide acceptable profit margins.

Renard found the solution by taking each item as it was developed to a package supplier experienced in carded packaging and informative labeling.

The supplier, acting as a custom packager, provided the various devices needed—all art, copy, printing and other components.

Description of six typical items and the packaging developed for each gives a quick idea of how the ticklish problems were solved:

1. Mermaid Fern is a product which looks like an ordinary fern, but thrives on air. It had to be protected from handling, yet allow the customer to see it. The solution to this was the development of a polyethylene bag with a brightly printed header that quickly explains the plant's characteristics. A

die-cut hole in the header permits rack merchandising of the product.

2. Plant Pen is a plant fertilizer supplied in very brittle stick form to be inserted in the soil of potted plants. Two of these "pens" are protected in a cellophane sleeve stapled to a die-cut card. Colorful illustrations and descriptions printed on the card explain use of the item, which is clearly visible through the transparent sleeve.

3. Flower Pot Hangers—metal brackets for attaching a plant to a wall—needed carding to illustrate use. Major problem was devising a special die cut to show off the item to best advantage, yet reduce assembly time to a minimum. A die cut was planned so that the holding device is merely snapped to the back of the card.

4. Swishers (fake fish to enhance the decorative effect of a fish tank) presented the difficulty of packaging nylon thread, sinkers and simulated fish to-

gether in a package, keeping costs of handling down, yet giving the customer complete detail about how to put the items in a fish tank. A polyethylene bag accommodates all the elements and the illlustrated card shows how they work. A background printed to simulate blue water adds to the visual effect.

5. Cage Canteen is a miniature bird-feeding station. The customer is induced to pick it up and see what it is for by the use of a printed, pressure-sensitive, wrap-around label that carries full information and directions for use.

6. A bird-cage cover made of clear plastic film had to be packaged so that it would not be mistaken for an ordinary utility bag or appliance cover. The solution is the use of a brightly printed paper insert giving use information slipped into a heat-sealed polyethylene pouch package.

Supplies and Services: Packages by Normandie Press, Inc., 350 W. Fourth St., New York 14.

Shipper-display package doubles as portable studio

Some large-sized products in the gift and hobby categories often involve a number of different components that demand more in the way of structural packaging than surface design.

A designer's solution to the packaging of an oilpainting kit marketed by M. Grumbacher, Inc., artists' supply house, suggests possibilities for packagers with similar problems.

With just two pieces of cut and scored corrugated board faced with bright yellow liner, that can be shipped flat, and six metal stitches, Grumbacher is able to assemble a package that serves as shipper, store display unit and a handy artist's tote box with die-cut hand hold.

The package holds securely a folding carton containing 12 tubes of oil paints, turpentine, linseed oil, plus four 12-by-16-in, canvas panels, a palette, an instruction book and a combination aluminum easel and painting carrier.

It measures only 24 by 18 in., tapered from a 3¾-in. depth at the bottom to 1¼ in. at the top. A special jig is used to break all score lines in the interior section and make ready for insertion of the various components. Two of the tapered cartons placed face to face are secured with tape to provide a single shipper, meeting Parcel Post specifications.

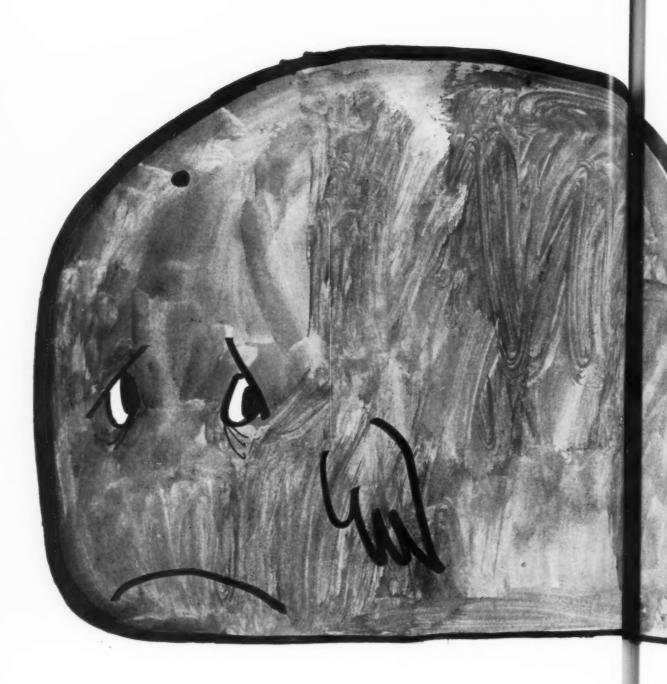
Dealers may open the package and display it with the lid bent back easel fashion. When closed, the die-cut hand hold at top serves as carrying handle.

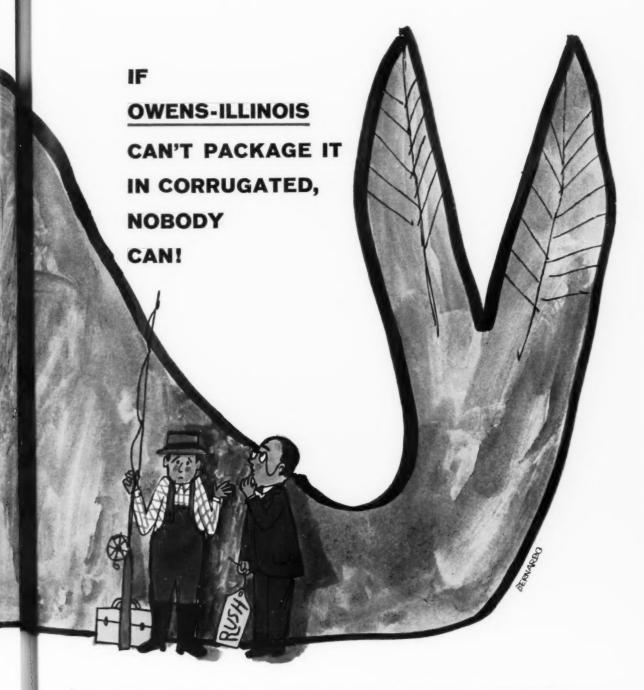
Advantages are apparent when the new package is compared with the two-piece telescoping window carton formerly used. The old package offered product visibility, but required an outer shipping container that brought costs up. It meant extra handling to pack and repack. Now the dealer simply untapes the dual shipping unit and has two kits ready for display. When a sale is made, he merely closes the box. No further wrapping or boxing is necessary. Inventory and storage problems are simplified and the package reportedly has strong gift appeal.

Supplies and Services: Design by Nesbitt Associates, 48 W. 48 St., New York.

Contents are visible when lid is bent back easel fashion for display on dealer's counter.







If Owens-Illinois can't package it in corrugated, nobody can! Corrugated container users with nation-wide operations find our facilities being constantly strengthened to meet even the most complex needs. But flexible and responsible localized operation is the open secret of our ability to work equally well with our next-door neighbor or a purchasing source a thousand miles away.

> PAPER PRODUCTS DIVISION FORMERLY NATIONAL CONTAINER

LOCALIZED SERVICE FROM PAPER PRODUCT PLANTS:

Atlanta, Ga. Atlanta, Ga. Aurora, Ind. Bradford, Pa. Bristol, Pa. Chicago, Ill. Dallas, Texas Detroit, Mich.

Jacksonville, Fla.
Kansas City, Mo.
Long Island City,
N. Y.
Los Angeles, Calif.
Madison, Ill.

Memphis, Tenn.
Milwaukee, Wis.
Newark, N. J.
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St. Paul. Minn St. Paul, Minn. Salisbury, N. C.

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How to sell a concept

Aluminum Co. of America, Pittsburgh, subtly sells the concept of its new Heavy-Duty Alcoa Wrap packaged household aluminum foil by offering retailers a corrugated display bin cut and printed to look like a delivery truck.

The display piece, with ample room for 144 individual cartons, is designed for use in supermarkets or other high-volume self-selection stores. Because it is printed on all four sides, it can be employed as an island unit, or placed against any convenient wall.

The colorful, two-section floor merchandiser is printed in a purple background color with white-and-purple copy and art elements that tie it in with the individual cartons for the product. Bold copy on both sides of the display's bin section reads: "It's here! New 12-inch Heavy-Duty Alcoa Wrap." Reverse printed on the top and side panels of the separate "cab" section is the promotional message: "40% stronger than any other 12-inch aluminum foil."

Additional design elements on the self-selection merchandiser help to carry out the "delivery-truck" motif. Display by Berger-Rivenburgh, Inc., 469 E. Ohio St., Chicago.

Display Gallery

Speedy set-up for one-piece corrugated display



The display that makes life easy for the retailer stands the best chance of being used. A way to meet this goal is suggested by this one-piece counter merchandiser adopted by Ideal Fishing Float Co., Richmond, to stimulate impulse sales for Tip Top fishing-rod tips. Shipped flat with the product, the die-cut corrugated-board display is constructed with a simple slot-and-tab arrangement. It can be set up in seconds to make a sturdy, three-sided counter unit, the company says. A broad shelf displays the eight different-sized products in a compartmented, transparent tray.

The red-and-blue printed corrugated board has a white outer liner, to take advantage of the sales appeal of fine printing surfaces. Self-service size and price data are featured on the display riser, in a panel divided into eight sections that correspond with each of the tray's compartments. The company's logo—the name "Ideal" against a die-cut, stylized fish—appears at the top of the compact merchandiser, with additional product-information copy on the front and side panels. Display by Hinde & Dauch, Div. West Virginia Pulp & Paper Co., Sandusky, O.

Card trick

An economical way to add seasonal sales power to a permanent point-of-sale piece is suggested by this counter display for Kem Plastic Playing Cards, Inc., New York. The device used is a card containing four seasonal tie-in promotional messages—two facing designs on each side. The card slips into a metal holder on the upper left corner of the display to reveal only the appropriate copy.

The four messages, each accompanied by a design vignette, are: "The gift for Christmas," "The thoughtful gift for mother," "Remember your valentine" and "Year-round pleasure for you and your family." The white card is silk-screen printed in red and black to match the color scheme of the counter merchandiser itself.

Made of composition board, the compact (12 in. high by $12\frac{1}{2}$ in. wide) display holds seven decks of playing cards. Product and price information are printed in red and white. (Helpful sales data for clerk use are printed on the back.) For added color and appeal, the designs available in the playing-card line are affixed in wheel fashion. Display by Pantone Press, Inc., 461 Eighth Ave., New York 1.

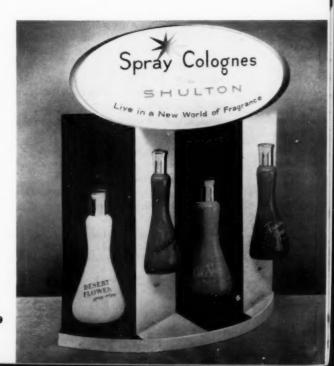


Display Gallery

Shadow-box display of polystyrene bottle replicas

A three-dimensional point-of-purchase display with a striking "shadow-box" effect is being used by Shulton, Inc., New York, to promote sales of four of its aerosol spray colognes. Replicas of the cologne bottles are made of vacuum-formed polystyrene and have pasted-on, gold-colored acetate caps. The "bottles" are spot glued to four staggered panels on the stand-up fibreboard display unit. The unusual construction of the display permits viewing from front and sides.

Background panels are alternately black and white, and are printed with the price of each product. An oval promotional header piece with a gold-colored border is printed in pink and blue on a white background. Colors of the silk-screen-printed bottle replicas are exactly the same as for the actual containers—white for "Desert Flower," pink for "Escapade," pale blue for "Old Spice" and blue-green for "Friendship Garden." Display by Larstan Processing Co., 259 Green St., Brooklyn. Vacuum forming by Imperial Paper Box Corp., 252 Newport St., Brooklyn 12, using extruded polystyrene sheet by Gilman Bros. Co., Gilman, Conn., and acetate by Coating Products, Inc., Englewood, N.J.





Sparkling examples of the polyethylene packages adopted by Cracker Jack are pouches for its three brands. New 1½-mil packages are said to lengthen shelf life 33%.



At discharge end of twin-pack pouch former-fillersealer, marshmallow pouches pass through heat-seal bar that closes to form a double seal, so that the top of one package and the bottom of the next are formed in the same operation.

Soft touch for marshmallows

Significant proof of the improving qualities and better economy of polyethylene—and proof, too, that it can now be run on pouch forming-filling-sealing machines as readily as any other film—is The Cracker Jack Co.'s decision to switch to polyethylene pouches for its line of marshmallows.

This famous Chicago confection manufacturer* estimates that shelf life of marshmallows is 33% greater in polyethylene than in the MST 300 cellophane previously used for the same type of packages. But that's not the whole reason behind the recent switch.

Cracker Jack Co.'s decision to use polyethylene was influenced also by recent improvements in the film's printability and clarity; its "soft" feel, conducive to the sale of a soft product, plus its inherent good aging characteristics and, of course, its steadily lowering cost.

The company markets marshmallows under three

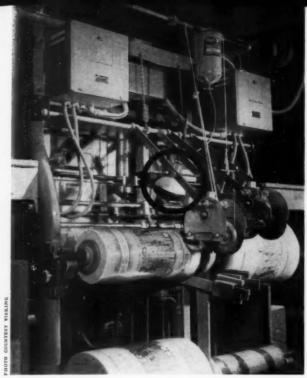
brand names—Campfire, Angelus and Recipe. For the entire line, pouches of 1½-mil polythylene are automatically formed, filled and sealed on a standard machine, slightly modified. Campfire brand miniatures are packaged in 5- and 7-oz. pouches, while regular-size marshmallows in the Angelus and Recipe brands come in 10- and 14-oz. pouches.

Although package design differs for each of the three different brands, all the polyethylene pouches are printed in red, white and blue, with spacious unprinted areas for product visibility.

Marshmallows are packaged at 40 pouches per minute (regardless of package size) on the machine —a web-fed, vertical, twin-pack unit.

Two machine modifications worked out by Cracker Jack and its machine manufacturer also are calculated to speed up the packaging procedure. Marshmallows are fed to the hopper in buckets attached to an automatic, continuous-chain conveyor system, to insure smooth, steady product flow. The company also has added an infra-red lamp to the

^{*}See "Cracker Jack." Packaging's Hall of Fame, Modern Packaging, Oct., 1952, p. 98.



For fast drying of code-mark ink stamped on film as it unwinds from web, an infra-red lamp attachment (circled) has been added to package-making machine. Not visible is a continuous-chain conveyor system that feeds a steady flow of product into the hopper.



Prefabricated polyethylene bags for popping corn are of 2-mil film for 1-lb. package, 3-mil film for 2-lb. package (above).

Polyethylene pouches, filled at high speed on automatic machinery, give Cracker Jack product longer shelf life and new sales appeal with a package that has 'fresh' feel

back of the machine. This attachment hastens drying of the code-mark ink for each pouch that is stamped on the film as it is unwound from the web.

Popping corn

In addition to marshmallows, Cracker Jack is marketing grain popping corn in prefabricated polyethylene bags. Bearing the Cracker Jack name and famous "boy-and-dog" trademark, the bags are sold in 1- and 2-lb. sizes. The smaller bag uses 2-mil film, the larger size is 3 mils.

As the company points out, popping corn in grain form has been a problem product to package because it is heavy, has a tendency to dry out and has sharp edges that can tear through most film bags. The results are lost revenue due to damaged, returned merchandise and negative consumer reaction. Heavy-gauge polyethylene bags successfully overcome these problems, as reflected in favorable comments and acceptance from retailers and consumers, the company says.

Because of their unusual wall thicknesses, the 2- and 3-mil bags not only are highly break resistant, but offer an improved barrier against the transmission of water vapor. This, of course, translates into longer shelf life, fewer returns and a fresher product for the consumer—who, after all, is the final arbiter of a package's efficacy.

In a two-stage operation, Cracker Jack's poppingcorn bags are filled on a volumetric filler, then are heat sealed on another machine.

Supplies and Services: Marshmallow pouches formed, filled and sealed on a "Compak" machine supplied by Hayssen Mfg. Co., Sheboygan, Wis. Popping-corn filling machine by Paul L. Karstrom Co., Spee-Dee Packaging Machinery Corp. Div., 1818 W. 74 St., Chicago 36. Heat sealer by Doughboy Industries, Inc., New Richmond, Wis. "Visqueen Q" polyethylene film by Visking Co., Div. Union Carbide Corp., Terre Haute, Ind. Printing by Color-Wrap Co., 4606 W. 21 St., Cicero, Ill., and Milprint, Inc., 4200 N. Holton St., Milwaukee, Wis.



Straight skirt gives the quality appearance of a more expensive cap, while the glued-in liner overcomes the loose-liner problem.

Efficient lug cap

Cooperative research by jar maker, closure manufacturer and Pacquin results in a tighter-fitting closure offering a cosmetic look without the high cost of a double shell

Cosmetic and drug packagers looking for the quality appearance of straight-skirted jar caps without the higher cost of double-shell, threaded metal closures will find of particular interest the recent engineering refinements in the design of metal lug caps and jars for Pacquin hand creams.

These refinements reportedly have resulted in:

Vastly more efficient lug caps due to a uniformly tight fit—an achievement apparently impossible before because of variations in the thickness of cap liners, jar lugs and cap depths.

▶ Full-sized, adhered liners replacing previously used loose ones that had a tendency to stick to the product when a jar was opened, creating a messy, unpleasant appearance.

The development represents a year's combined study by the manufacturer of the closure and the supplier of the jars in cooperation with Pacquin. And since the suppliers of jars and closures are divisions of the same parent company, it may also be significant of the advances in techniques that are possible through such close package-supplier relationships.

Until 1954 Pacquin used a continuous-thread, single-shell metal closure with visible thread. At that time the company decided to modernize its hand-cream packages. For more attractive appearance, it wanted a straight-skirted closure, but felt a double-shell metal closure or a molded plastic screw cap were too expensive. An enameled lug cap gave the desired straight-skirted appearance, but several problems were encountered. When applying maximum torque, the variable factors in the cap and jar resulted in closures that appeared to be tightly seated, but actually were not. Loose liners created a problem.

Engineering study resulted in changes that apparently have overcome these disadvantages.

On the jars, the travel along the helix has been reduced and the horizontal travel increased. The stop construction has been modified. In the cap, the lug width has been reduced and a new technique of measuring assures closer tolerances.

These modifications, says Pacquin, have effected a more uniformly tight fit. And by gluing the pulp and vinyl-waxed liner into the roof of the cap, the loose-liner problem has been overcome.

Machinery alterations necessary to make the change were minor, according to Pacquin, requiring only new capping buttons on the capping machine.

Supplies and Services: "New Nu-Lug" cap by White Cap Co., 1819 N. Major Ave., Chicago 39; jars by Hazel-Atlas Glass, Wheeling, W. Va., both divisions of Continental Can Co.

Report on PI Sessions

Highlights of Packaging Institute's 20th Annual Forum

One common interest—technology—attracted about 1,000 packaging specialists to the Packaging Institute's 20th Annual Forum at the Edgewater Beach Hotel in Chicago, Oct. 13-15.

The 56 papers on varied subjects presented at 12 seminars, two luncheons and the Second Annual Awards Dinner during the three-day meeting pointed up impressively the growing emphasis on the scientific approach to today's increasingly more complex packaging problems.

Particularly revealing was the large attendance at the Package Marketing Seminar, indicating the high interest in the search for practical scientific methods of evaluating consumer attitudes without blue-sky guesswork.

Since this was the first time the Forum has been in Chicago, no significant comparison can be made with the larger registration of 1,500 in New York last year. The only other Forum held outside New York was in Cleveland in 1956, at which attendance was reported at just over 1,000.

A feature that drew standing-room-only attendance at the opening session was a closed-circuit television show presented by West Virginia Pulp & Paper Co., during which viewers had the opportunity to watch "Clupak" stretchable paper being

PI's highest award to MODERN PACKAGING's Technical Editor

Charles A. Southwick, Jr., Technical Editor of Modern Packaging, is winner of the Packaging Institute's second annual Professional Award for individual accomplishment in packaging. The presentation, the highest individual honor conferred by the Packaging Institute, was made at the PI Awards Dinner in Chicago on Oct. 14. The only other holder of this award is Karl Prindle of The Dobeckmun Co., who was honored last year for his work in the discovery of moistureproof cellophane.

Mr. Southwick, who joined Modern Packaging in 1943, has been an outstanding technical authority in the packaging field for some 30 years, serving both industry and Government. Since 1948 he has been a packaging consultant in the specifications, manufacture and performance of flexible-packaging materials.

An early advocate of polyethylene, Mr. Southwick also was one of the first to recognize the need of a scientific basis for flexible packaging. He originated the water-vapor-per-

meability test method, considered the most basic and widely used of all packaging-material standards. Known as the "Southwick Method." it was developed while he was director of packaging research and development for General Foods Corp. from 1930 to 1942. It has been incorporated in nearly all Government packaging specifications and is the basis of a test method of the Technical Assn. of the Pulp & Paper Industry. Mr. Southwick also developed a method of determining water-vapor transmission at 0 deg. F., now a TAPPI test method.

Active in the Packaging Institute since its inception, Mr. Southwick set up its first Technical Committee in 1943 and was its chairman for several years. This work resulted in a series of test methods, the first ever published by PI.

Mr. Southwick is a member of Tappi and the American Chemical Society. He also is a lecturer on packaging at both New York University and Columbia University.

The Institute's citation of Mr. Southwick, on a large bronze plaque, reads: "The 1958 Professional Award of the Packaging Institute has been conferred upon Charles A. Southwick, Jr., in recognition of his outstanding contributions to the field of Packaging Technology."

Professional Award of the Packaging Institute is presented to Charles A. Southwick, Jr., (left), Technical Editor of Modern Packaging, by Roger V. Wilson of Continental Can, chairman of the PI Awards Committee, at the Institute's Annual Awards Dinner in Chicago.



manufactured 1,000 miles away in Charleston, S.C. A two-way audio set-up permitted the Chicago audience to ask direct questions of a panel in Charleston about this revolutionary new papermaking development. Ron Cochran, CBS newscaster, was commentator in Charleston, while L. R. Lawson, Jr., West Virginia Pulp & Paper Co., was in charge at the Chicago end.

The new president of Packaging Institute is Charles W. Kaufman of National Dairy Products Corp. George Weissman, Philip Morris, Inc., is elected vice president. Two other vice presidents are re-elected: Harold Mosedale, Jr., Package Machinery Co., and L. H. Zahn, Ciba Pharmaceutical Products, Inc. Two directors re-elected for additional three-year terms are Frank W. Cray, Interchemical Corp., and C. F. Schokmiller, The Grove Laboratories.

Four newly elected directors are: John C. Clay, National Starch Products, Inc.; C. Paul Bolton, Carnation Research Laboratories; Norman L. Esthus, Morton Salt Co.; Fred W. Langner, Socony Mobil Oil Co.

At the Awards Dinner, the coveted Professional Award for individual accomplishment in packaging was presented to Charles A. Southwick, Jr., Technical Editor of Modern Packaging (see p. 133).

Bristol-Myers won the 1958 Corporate Award of the Packaging Institute in recognition of an outstanding advance in applied packaging technology as exemplified by its interior-lined polyethylene container for Ipana Plus dentifrice—a project encompassing a full decade of research. The award was accepted by Ralph H. Thomas for Bristol-Myers. Presentation was made by Roger V. Wilson, Continental Can Co. and Awards Chairman.

Modern Packaging's \$2,000 award, this year granted as a Teaching Fellowship at Michigan State University, was won by David L. Olsson, a 1958 graduate of Michigan State's School of Packaging, who will devote a year as a member of the teaching staff in this department. The fellowship was accepted for Mr. Olsson by Dr. James Goff, head of the packaging faculty. Lloyd Stouffer, Editor of Modern Packaging, made the presentation.

Frank Greenwall, Chairman of the Board of National Starch Products Co., announced the availability of the National Starch Products-Packaging Institute Packaging Engineering Scholarship of \$400 a year and recommended that other firms make available similar scholarships to encourage students to pursue packaging careers that will provide industry with needed technical personnel.

The Packaging Institute's 1958 Award of the Technical Operations Committee was won by James H. Parliman, Technical Service Manager, Plax Corp. This T.O.C. award is made annually to the individual judged to have contributed the most informative paper of greatest technical value to the Forum. Mr. Parliman, who has been a contributor to the Technical Section of Modern Packaging on the same subject, received the award for his paper on lined polyethylene bottles. Presentation was made by L. H. Zahn, Ciba Pharmaceutical Products, Inc., and Director and Chairman of the Packaging Institute's T.O.C. Committee.

N. W. Postweiler, Riegel Paper Co., was presented with the Gustav Lange scroll for his "outstanding contribution as program chairman of the 19th and 20th Forums."

The Awards Dinner was preceded by a reception honoring A. Douglas Murphy, retiring president of Packaging Institute. Mr. Murphy recently retired as packaging coordinator of Esso Standard Oil Co., after more than 40 years of service with that firm.

As an added feature of the Forum, the Packaging Institute jointly sponsored a seminar on industrial packaging and materials handling with the Society of Industrial Packaging & Materials Handling Engineers in the Chicago Coliseum, where SIPMHE held simultaneously its biennial exposition and packaging competition. (See page 144.)

Those attending the Forum also had opportunity to see displays of prize-winning packages in competitions sponsored by three packaging trade organizations: the National Flexible Packaging Assn., the National Paper Box Mfrs. Assn. and the Folding Paper Box Assn. of America. The displays were on view the full three days.

Dates for the 21st Packaging Institute Forum have been set for Nov. 16-18, 1959, at the Hotel Statler in New York City. Roy W. Abling of Merck, Sharp & Dohme, Div. of Merck & Co., has been appointed chairman for the 1959 Forum and will be assisted by I. G. Nichol of Morningstar-Paisley, Inc., as vice chairman. SIPMHE had not announced dates for its next exposition as this went to press.

Keynote luncheon address

Packaging—Food for Thought—R. CARL CHANDLER, Chairman of the Board, Standard Packaging Corp. The force of packaging is felt in every area of our economy. And as time goes on, it will become a greater force. We are entering a new era of convenience—convenience packaging that means greater convenience in opening, storing and preparation—everything to speed use.

The average shopper spends 20 to 25 min, in the average supermarket. During that time she sees 260 items every minute. How do you package to make her choose your product? Mr. Chandler asked. Consumer packaging today is the last chance to make a sale. Packaging takes over where advertising leaves off.

Mr. Chandler touched on the tremendous area of packaging for mass feeding, the growth of single-service packages for cheese, jams, butter, salt, pepper, mustard and

pancakes. One out of four meals is now eaten outside the home, he said.

Package marketing seminar

Chairman, D. A. Johnson, Advertising and Sales Promotion, Continental Can Co.

A standing-room-only session on package marketing was followed by an esoteric discussion of psychological research techniques, ending only when time ran out. In summarizing, Mr. Johnson commended the panel and the audience for this lively give-and-take as a healthy indication of progress toward more workable approaches to package design problems.

Coordinating Packaging with Design, Research and Production—Albert Kner, Director, Design Laboratory, Container Corp. of America. Research is good only if it can help to make a decision, Mr. Kner pointed out. He illustrated his talk dramatically with color slides that showed impressively how important brand is to the consumer in making the point-of-sale decision. He showed pictures of 10 glasses of beer, 10 cups of detergents. Without their packages they all look alike. Only with packages are the brand images conveyed, he said.

Package design must be an integrated approach based on responsibilities of sales, production and aesthetics that will impel the consumer to the product, Mr. Kner said.

The route to a realistic packaging concept should be via the problems and solutions of designers, researchers, production men and salesmen, he said. The package then meets the needs of everyone from manufacturer to consumer. The package in its conceptual framework must fulfill all phases of product merchandising. No one aspect is overpowering.

The Motivational Meaning of a Package—William Schlackman, Director, Packaging Research, Institute for Motivational Research. All perception is physically the same, but is interpreted by each individual differently according to widely varying social, personality and cultural factors, said Mr. Schlackman. He cited the example of a full-color appetite-appeal package for a frozen dinner. The motivational perception may differ widely on the part of consumers viewing it, he said. One shopper may see it just after having eaten a steak dinner, while another may see it after several hours without a square meal. This can greatly influence the decision to buy, he believes. We call this the "state of need," he said. Such motivations often cause distorted claims for a product on the part of a consumer. A man fearing baldness, for example, will be overly influenced by the claims on a label for hair tonic.

Package research must attempt to understand both the symbolic meaning of the package and its perceptual factors. He pointed out three phases in the conduct of psychological research which he considers necessary: (1) Motivational research must determine the major psychological appeals for the product. (2) Alternate designs based on the findings of motivational research should be tested for consumer acceptance and for market feasibility. (3) Final designs should be tested against old and competitive designs.

The Importance of Color in Packaging—Louis Cheskin, Director, Color Research Institute. Research on the unconscious level has a great influence on the brand symbol of the package, said Mr. Cheskin, who pointed out some of the unconscious-level procedures that are being used today in industry for package development.

We are usually motivated by the image of an idea rather than the idea itself, he maintains. Labels motivate us to buy certain products and reject others. Choices are made on the basis of visual effect.

Symbols may be simple or complex. They may be crests, shields, geometric shapes, colors or a realistic image. Each type of symbol has favorable or unfavorable connotations to the unconscious mind. Consciously we assign no importance to the symbols, but unconsciously we are deeply af-

fected by them. The objective of psychological research is to make workable evaluations of such symbols or colors in their proper relation to package design.

Précis of Presentation—WILLIAM CAPITMAN, President, The Center of Research in Marketing. You do not research packages, you research people, according to Mr. Capitman. And since we know very little about people, we must base the findings on secondary evidence, he said.

Behind every package there must be some concept as to what the consumer will perceive, since the ultimate objective in marketing is to make an impact on a human being. Yet, the majority of packages are created with no knowledge of how the consumer will respond.

Perceptual research, he believes, can provide information of a very precise nature. This investigation must be painstaking and detailed. Detailed work into how the consumer perceives the world in which she lives, leads to the following conclusions:

I. Convenience is not enough. Packages must be perceptually believable, suggest favorable perceptual images.

Packaging must be effective on a functional as well as a psychological or symbolic level.

Perception is not just visual; packages must be perceived favorably by other senses.

Packaging should be geared to the continually changing cultural and psychological world of people.

5. There are no generalizations about packaging which hold true from product to product, from place to place, from time to time

Predicting Package Success—Dr. Myron J. Helfgott, President, Lippincott & Margulies' Package Research Institute. Three criteria are necessary, said Mr. Helfgott, for every successful package: (1) to attract attention on the shelf; (2) to encourage the shopper to buy, and (3) to establish the brand loyalty that means repeat purchases.

Based on these criteria, we have developed a research procedure comprised of three tests. They are: a laboratory test to measure competitive visual effectiveness; a consumer test to measure the degree of purchase effectiveness, and a home-placement test to measure repeat-purchase effectiveness.

With slides Mr. Helfgott presented a series of case histories showing how these criteria were used in arriving at a number of marketing conclusions. One of these had to do with a hypothetical bakery using a double name, "Bakerman's Oven-Crust" bread. The question was whether the words, "Oven-Crust," could be dropped. Research indicated that no marketing advantage would be lost by changing the trademark to omit the words.

The Professional Package Designer Comes of Age-ROBERT SIDNEY DICKENS, Dickens, Inc.; member, American Society of Industrial Designers and Package Designers Council. Mr. Dickens gave a comprehensive presentation of the role of the package designer in modern industry. The package designer, he said, is an individual who must have a graphic-arts background, but be capable of providing a total packaging presentation. He not only can provide service, but can offer council as a judge. He must know how to work with sales departments as well as with engineers. He is not just another commercial artist. He may be what is known as a "captive" designer employed by a package supplier, a package-design director for a package-using firm, or an independent designer. He is dedicated to the responsibility of creating a package that will move merchandise. He can only do his best work when he has all the facts to write the successful prescription.

I would like to dispel a few myths about the designer, said Mr. Dickens. First, the reputation that his fees are fabulous. If people understood the step-by-step procedure in which the designer is involved, they would realize his fees sometimes are not enough. As it is, the fee is often no more than the cost of full-color plates for the first run of the package. It is sometimes argued that the designer is not a

researcher. The emphasis many design firms are placing on research today should be enough to dispel that myth.

Packaging research and development seminar

Chairman, W. T. NYE, Gaylord Container Corp.

The Aluminum Can, Its Development and Use—I. R. PAYTON, Manager, Rigid Container Div., Reynolds Metals Co. Up to now, aluminum has been a job-shop industry, supplying a bit of this and a bit of that, Mr. Payton stated. This means relatively short runs of hundreds of combinations of alloy, temper, gauge, size and form. The can market represents one of the first opportunities for the aluminum industry to achieve new standards of low conversion cost for aluminum can-making materials, such as sheet and slugs, through high-speed integrated production of very narrow specifications especially well suited for cans.

Comparing pioneering European practices in producing aluminum cans with new American techniques, Mr. Payton pointed out that intensive research and development here, particularly in machine design, chemistry and metallurgy, promise radical improvement. He reviewed five types of construction: (1) cemented side seam, produced on modified conventional can-making equipment and now used for motor oil but suitable for citrus juice concentrates, antifreeze, certain paints, frozen soups and such household products as liquid wax; (2) impact extrusion, heavily used for aerosol cans abroad at an output rate of only 60 per minute, but capable of producing 200 to 500 cans per minute with American machines now on the drawing board that will create round, square, octagonal or multiple can bodies; (3) deep drawn or drawn and ironed, offering advantages of the extruded can; (4) simple drawn, limited in height to half its diameter and offering shape and size flexibility well suited for small containers; (5) cold-welded side seam, a developmental type with good seam strength and able to withstand pressures and temperatures of processed foods.

Packaging Education Potentials at Michigan State University's School of Packaging—Dr. James Goff, Assistant Projessor, Department of Forest Products, and H. G. WALTER, Executive Director, The Packaging Foundation, Inc., Michigan State University. Dr. Goff outlined development of the MSU School of Packaging since the first student entered in May, 1953. A peak registration of 148 occurred last winter, with 104 in the school now due to a tightening of admission and retention standards. Of 200 total term credits required, he explained, 68 are in general education, 48 in math, 12 in specific engineering subjects, 14 in business courses, 22 in packaging courses and 36 in free electives. Out of such a course, the school has graduated 115 packaging technologists since 1953. But with small freshman and sophomore registrations this year, he appealed to businessmen to encourage high-school students to enroll in the course for a career in packaging. Dr. Goff showed slides of MSU's laboratories and testing equipment.

In sharp contrast to the school's present facilities, proposed expansion plans outlined by Mr. Walter promise a vastly improved instructional and research program. The Foundation he directs was established last year to improve the packaging school at MSU through a fund-raising drive. Its goal is \$2,000,000 to build and equip a new building which MSU will staff and maintain.

Drumpaket for Shipping Bulk Granular Materials—H. E. TAYLOR, Technical Service Manager, Gaylord Container Corp. This new container was described by Mr. Taylor as a product of a research program designed to develop a corrugated package combining features of the rigid fibre drum with some of the advantages and characteristics of corrugated board. Basically it has an hexagonal shape, but it can be adapted to either square or octagonal shapes. Interchangeable caps for top and bottom have die-cut "legs"

or extensions of the hexagonal segments that are scored for bending and inserting between outer and inner bodies of the drum. Interlocking interior flanges that butt against each other secure the caps to the bodies without use of staples, glue, tape or strapping. A built-in tear tape permits easy opening and the cover created by the tearing device can be slipped over the top of the body for reclosing.

Mr. Taylor reported the container is competitive pricewise with the rigid fibre drum, that its honeycomb packing pattern minimizes the loss of space between containers, thus cutting freight costs, and that it is manufactured in sizes ranging from $2\frac{1}{2}$ to 138 gallons. Polyethylene bags may be inserted in the drums for special protection and the drums can be printed like an ordinary box.

A New Heat-Sealable, Cold-Water-Soluble Transparent Packaging Film—E. M. Kratz, Vice President, Mono-Sol Corp. Fundamental research has overcome early difficulties with this packaging form so that today a film formula exists that is a compromise between the extreme low and high relative-humidity conditions suitable for cold-water-soluble (CWS) packaging. The result is a film package soluble in water that has many end uses: to dispense a pre-weighed amount of dye, chemical, etc., with full protection from contamination, particularly in the case of insecticides, fungicides and poisons, and with further applications for packaging detergents, cosmetics, bubble-bath powders, bleaches, sterilizing and water-treatment chemicals, plus such filtering agents as activated carbon which is fluffy and tends to fly in the air.

Without Food & Drug Administration approval of polyvinyl alcohol for internal consumption, the field of food packaging remains undeveloped for an edible water-soluble package, Mr. Kratz explained. PVA film properties listed by him included excellent tear strength; good resistance to mild acids, alkalis and chlorine; light stability; resistance to oils and solvents; gas impermeability; good heat sealability and, of most importance in packaging applications, fast disintegration and dissolution time, though this characteristic, of course, limits its use in containing hygroscopic and anhydrous products. Disintegration time ranges from a few seconds for a strip of CWS PVA to about 30 seconds for a package stirred in water to prevent floating. The film has long shelf life and is suitable for automatic handling on machines modified to handle polyethylene, Mr. Kratz said.

Technical Development of Marlex Film for Packaging Uses-R. VERNON JONES, Manager, Technical Services & Development, Plastic Sales Div., Phillips Chemical Co. The research behind the two-year-old development of this film as a packaging material was cited by Dr. Jones as an example of the cooperative work of research, production and sales departments. Even after Marlex became a commercial item and was finding markets in fibres, injection molding, extruded sheet, pipe and bottles, he pointed out, no one was making Marlex film commercially. But the research and technical people never ceased to believe that fabrication techniques could be worked out to give a film of commercial value, he said. Further research has developed seven features in the material, he said. It is non-toxic, heat sealable, tough at low temperatures, non-blocking and non-sticky, stable, printable after treatment and steam sterilizable at 250 deg. F. Dr. Jones reported that Marlex films provide the durability and protection of polyethylene with the handling ability and appearance of cellophane at a cost equal to or better than either.

It's a Set-Up (Box)!—RICHARD WELLBROCK, Vice President, New Jersey Machine Corp. Describing the set-up box as the oldest form of packaging, Mr. Wellbrock reported as many in use today as there are glass containers to package food or glass containers for drugs, cosmetics and beverages combined. Because of this tremendous market, machinery manufacturers have developed fully automatic machines to provide volume production, with the re-

sult that the industry is being converted from hundreds of small operators into a smaller number of consolidated and concentrated plants, and from batch to continuous operations with a high degree of output flexibility and fast change-over facility.

An important additional dividend, he pointed out, stems from the fact that the bigger plants supported by this equipment attract talent for package design and creative work that the smaller plants could not afford. One result is a stream of new ideas, including profitable combinations of paper boxes with other packaging forms and newer packaging materials. With samples he displayed to the audience, Mr. Wellbrock demonstrated such traditional setup boxes as the "fancy box" typified by the Whitman Sampler, the hard box, the rigid box and the loose-wrap box, formerly hand made but still offering its quality look though now made on a completely automatic machine.

Production line and machinery seminar

Chairman, A. R. Schaefer, Vice President, New Jersey Machine Corp. Moderators, Byron Kingery, Lederle Laboratories Div., and E. M. Wixted, Schering Corp.

Gearing the Production Line to a Buyer's Market—L. W. SMITH, Asst. Production Manager, Bristol-Myers Co. Packaging of "deals" creates many problems in both machinery and personnel, but close cooperation between sales and production supervisors can produce a workable package that will run on automatic equipment, according to Mr. Smith. A case in point is the evolution of a combination package for "Mums" involving two product cartons that were fastened together to get maximum display surface and efficient utilization of shelf space.

The initial combination bound two cartons together in piggy-back style and could be run on a packaging line at 120 packages per minute. This arrangement was unsatisfactory from the sales standpoint. The second attempt put the cartons side by side, but they could not be run only at 60 per minute and did not offer a maximum display space.

The successful solution, from the sales standpoint, was to spot the cartons on a backing board. This required the development of special packaging machinery, which the production department was able to create in four weeks. A total of 1.440,000 of the deal packages was run off in the following four weeks, Mr. Smith reported.

The machine cost \$1,500 more than the estimate, but operated at 140 packages per minute and was so successful that it has been used in two subsequent deal packages.

In general, when packaging speeds for deals rise above 100-per-minute speeds, special machines are necessary.

Rotation training of personnel is a great help to smooth operation, because variety of experience on different packaging machines increases the value of workers.

Wishful Thinking Pays Off—C. P. WHITTIER, Packaging Research Div., Owens-Illinois Glass Co. To back up the thesis that wishful thinking can be a fruitful source of new ideas, Mr. Whittier cited numerous examples of container development from the glass and plastics industries. Illustrating the talk with slides, he noted that milk, beer, ketchup and baby-food bottles have been greatly reduced in weight over the past few years, yet have been increased in quality and break resistance.

Since the strength of a glass container is in the surface of the material, Mr. Whittier pointed out, new treatments that lubricate the bottle and prevent scratches have boosted their toughness. Increased knowledge has led to new bottle designs that were never possible before.

Charting the increased speeds in all lines of packaging equipment, Mr. Whittier noted that synchronization of packaging lines has eliminated many of the causes of down time. Mechanical components such as worm feeds have smoothed operation where synchronization is impossible.

Among developments now being worked out, Mr. Smith reported, are closures with even better seals, packaging machines with higher speeds and faster change-over, compact cleaners for multi-trip bottles, and liquor and cosmetic bottles that do not employ lugs for spotting labels.

The Human Ingredient in the Packaging Stew—D. S. Shepherd, Vice President, Winthrop Laboratories. Tracing the cause and effect behind the present relationship between workers and management, Mr. Shepherd noted that 30 or 40 years ago there were a vast amount of hand labor and only a few clumsy packaging machines in existence. Coupled with one-man company ownership, this led to close interest by the employee in company operations.

As management moved progressively further from the employee through absentee ownership and stockholders, the immediate supervisor grew to represent the company in the worker's mind. With new machines and materials that speeded up packaging operations and reduced the number of workers, the number of employees has dropped and at the same time they have increased in importance.

To get the maximum output from these employees, they must be motivated by management to do a good job. Chief spark in this motivation is the desire of the employee for recognition. Communications between management and employees is vital for both recognition and the planning, organization and control functions that are a basic part of the management job.

Dealing With Adhesion Problems on the Production Line—H. E. SMITH, Hiram Walker & Sons, Inc. Problems with adhesives can be classified in two categories: (1) day-to-day problems of machine adjustment and use of standard known adhesives and (2) problems with new and untried adhesives.

The operating norm is a constant compromise between cost and operating efficiency, according to Mr. Smith. Small problems cause small defects, short down times and added labor that eat away at operating efficiency. Increased operating speeds frequently affect the efficiency of adhesives. Even atmospheric conditions have an effect.

Adhesion problems are rarely a single trouble, but are caused by a pyramiding of factors—all of which must be corrected for perfect line operation.

When investigating a problem, the trouble shooter should be friendly with line personnel, listen and ask questions. The production line should be running and samples of the defective package should be available for checking.

When making complaints to suppliers, Mr. Smith noted, samples and written reports should always be on hand. If the packaging material is in error, defective material should be set aside.

Failure of packages is frequently caused by worn equipment, unsuitable packaging materials and adhesives, and outdated supplies.

For testing adhesives, a manual of testing procedures has been issued by the Packaging Institute Committee on Adhesion to Glass, In all, about 20 causes for adhesive trouble have been identified.

Importance of Effective Training of Packaging Personnel—R. E. MOTTIN, Manager Mechanical Development Dept., Parke, Davis & Co. Hit-or-miss selection of machinery set-up men by line supervisors has given way to scientific selection by tests. High-speed packaging machines and unions have pyramided the problems, but progress is being made.

Mr. Mottin stated that at his company, there are two levels of machine men: set-up men for unrelated single machines and mechanics that handle integrated lines. Candidates for either job take the Wonderlic general intelligence test, the Purdue aptitude test to gauge past mechanical performance and the Benett mechanical aptitude test for mechanical capabilities.

In addition, supervisors rate the candidate on company-

developed forms. It has been found that the most intelligent men rarely make the best set-up mechanics and line operators. The job is not for engineers, but requires a high level of mechanical aptitude and ability to follow standardized set-up and maintenance procedures. Adjustment of a simple machine is also used to test the candidate's speed, dexterity and selection of tools.

Another form, developed by the company, is used by supervisors to rate the trainees at the end of their probational period and to determine their final qualifications for

the maintenance job.

Factors Affecting Packaging-Line Layout—H. W. LYONS, Merck, Sharp & Dohme. Planning well in advance for new packaging lines or revamped set-ups is important to determine the requirements for a well organized and

modern packaging area, Mr. Lyons stated.

Operating personnel should be allowed to help in this planning. Machinery suppliers can also be of service. There is no pat way to relate mechanically all of the complex factors in the design of packaging lines and come up with an answer. Four factors enter into the problem: building construction, personnel services, product characteristics and operating characteristics.

Illustrating a variety of line layouts with slides, Mr. Lyons noted that the shape of the line—straight, U-shaped, parallel dual packaging set-ups, or off-set lines with dual functions—depends on the affect of the above factors.

Drug and pharmaceutical seminar

Chairman, R. J. HENNESSY, Lederle Laboratories Div. Moderators, George Robinson, Merck, Sharp & Dohme, and Howard Berger, Smith, Kline & French Laboratories,

Pharmaceutical Aerosol Laboratory Developments—EDWIN POMERANTZ, Pharmaceutical Section, Chas. Pfizer & Co., Inc. The current interest of pharmaceutical manufacturers in aerosols was illustrated by Mr. Pomerantz in dramatic mentions of the possibility of aerosols for vitamins and antibiotics, sprayed-on liquid bandages, asthmatic nasal sprays, injectables applied with pressure that could eliminate the use of hypodermic needles, even respiratory sprays that might eventually be used to detect the presence of lung-cancer cells.

As pharmaceutical manufacturing becomes more competitive, acrosols offer many advantages for better and more convenient application of medicinals. Mr. Pomerantz said he believes that consumers will be willing to pay a premium price for such convenience, just as they have for

aerosol packaging in the food and other fields.

Mr. Pomerantz discussed in detail the progress being made in propellants to meet various formula requirements and which can be used without affecting the stability of the product, He reported developments in valve constructions

to assure accurate metered dosages.

Although there is so far no universal liner material for aerosols, much progress is being made in solving problems separately to offer protection against moisture, light and trace-metal contamination, he said. And while glass is the aerosol container of choice today in the pharmaceutical field, metal is cheaper. Plastic aerosol containers have not yet been evaluated for drugs.

Rx for Aerosol Packaging Through Contract Packagers—John C. Armstrone, Armstrong Laboratories. Advantages of selecting a qualified aerosol contract packager were summarized by Mr. Armstrong. (1) The aerosol contract filler, he said, has the advantage of being able to offer the services of an organization of highly trained personnel, familiar with the specialized quality-control and production problems of aerosol packaging. (2) Where close filling tolerance is essential, such as in aerosol pharmaceutical filling, certain contract aerosol packagers specializing in this

work have developed or modified machinery to provide extreme filling accuracy. (3) A merchandiser of pharmaceuticals can market test without delay, at fixed filling costs, without risking the necessarily large investment of specialized equipment on a particular program that for some reason may not be a commercial success.

Sometimes the contract packager may be employed during a phase operation, which it may be feasible for a pharmaceutical house to replace later with its own aerosol packaging. During the phase operation there is no capital investment in machinery until it has been determined that the pharmaceutical house can profitably install and use its own facilities.

Rx for Aerosol Packaging . . . Do It Yourself—ROBERT A. FORESMAN, JR., Aerosol Consultant. As a protagonist for the "do-it-yourself" trend, Mr. Foresman cited the relative merits of using a contract aerosol packager in contrast to a production-line set-up in the drug firm's own manufacturing plant. The do-it-yourself program requires an outlay of capital in contrast to current expenses, he said. Each firm must decide for itself which will make the best use of money. Installation of the aerosol line presupposes a time lag in know-how to use it efficiently and a lack of information about initial formulas. The do-it-yourself program also can create purchasing inefficiencies through the ordering of supplies that might not be used.

Advantages, on the other hand, may far outweigh the disadvantages. (1) In-plant aerosol packaging assures quality control every step of the way, providing valuable data as aerosols become more important. (2) It offers the opportunity of switching personnel unoccupied on other production duties to the aerosol line without layoff or adding to payroll. (3) It assures confidentiality, as the people who will know about new products will be held to a minimum within the company. (4) It offers more flexible inventory control and scheduling of requirements without waiting for others if the contract packager has previous commitments. (5) It provides a liaison between production and research. (6) It avoids delay by eliminating multiple handlings between manufacturer and contract packager.

Selection of equipment varies from small laboratory pilot operations to high-speed, mechanized lines, depending on requirements. Mr. Foresman said investments may run from \$20,000 to several hundred thousand dollars, depending on expected volume. Laboratory operations can be set up today for less than \$5,000.

Cost Substantiation of Aerosol Packaging—Samuel Prussin, Director, New Products, Aerosol Techniques, Inc. Some of the factors which compensate for the increased cost of an aerosol package and which influence the packaging of the product as an aerosol are: (1) Product dispensing in a self-pressure form not readily obtainable or available with other packaging forms. (2) Accurate metering from 35 microliters to one teaspoon or better. (3) Particle-size control from a gross, wet pattern to an airborne spray. (4) "Factory-fresh" state of the product from point of manufacture to terminal use at the consumer level. (5) Increased stability. (6) Special therapeutic effects obtained from aerosol dispensing.

Costs must be compared with conventional methods of packaging to be sure that the aerosol costs are justified to perform a function and not to put a fad on the market. From a functional standpoint, Mr. Prussin mentioned the convenience of a possible iodine complex which could be sprayed in pre-operative cases. He gave some comparative price ranges in packaging supplies for aerosol packaging—coated glass containers two to three times the price of cans; conventional spray valves down to 2½ cents apiece. The price of valves has come down from \$100 a thousand during the past decade to an average of \$23 per thousand, he said. There is no universal liner material and there is a long way to go before linings on metal are developed to meet all pharmaceutical product requirements.

Packaging 'Hard-to-Hold' Products in Polyethylene—J. D. CZARNECKI. Bradley Container Corp. Hard-to-hold products, such as cream lotions, depilatories, nasal and hair sprays are just waiting for the right materials to come along to be packaged in plastic, squeeze-to-use tubes, bottles and containers, according to Mr. Czarnecki. One type of polyethylene known alternately as high-density, low-pressure or linear, and closely related to polypropylene—in combination with proper coatings—is greatly increasing the efficiency of these containers. But the coatings must be tailored for specific jobs. The combinations are extremely numerous and few firms can afford to test all of them. Users must rely on supplier tests in making their choices for the best coatings from the standpoint of practicability, economy and performance.

Some basic criteria have been established to evaluate these requirements. First, the package must be packagable in glass to survive plastic. There should be little sacrifice in shelf life. Temperatures are involved in the packaging process and must be carefully considered except in the case of products packaged cold, where temperature is no concern. Density of the material must be considered in relation to stiffness. Tests must be conducted to determine how much moisture, flavor or perfume loss can be endured. Laboratory tests will provide reliable data quickly on such questions if they are conducted to approximate as nearly as possible environmental conditions.

Large containers are impractical for testing. A 1-oz. size will usually serve. It is possible with accelerated tests run 28 days to project performance from one to two years. Laboratory screening should be followed by adequate field tests before production commitments are made.

Tests are more dependable when accompanied by controls, using glass as the standard. Visual tests should disclose any appearance changes, such as stains, cracking, tackiness or collapse. Weight tests to measure permeability should reveal a minimum of weight losses. Organoleptic tests will reveal odor and taste changes. Testing will also point up inconsistencies in product color and viscosity. Often test packages must be opened for chemical analysis.

Perfection can be hoped for, but there are very few truly inert materials. Polyethylene is a good material for drug and cosmetic packaging if used correctly, but is still not equal to metal or glass. Users must be selective in adopting it for the first time, Mr. Czarnecki pointed out.

Lined Polyethylene Bottles-James H. Parliman, Technical Service Manager, Plax Corp. (This presentation won the Packaging Institute's 1958 Award of the Technical Operations Committee for the most informative technical paper given at the 20th Annual Forum.) At Plax we have been studying liquid permeation of polyethylene bottles for 10 years and many exciting things have happened since we obtained our first data in 1948. Of all the products studied. Mr. Parliman said, one-third still cannot be considered suitable for polyethylene, one-third are questionable and onethird can be successfully packaged in polyethylene. Permeation is still the greatest obstacle to progress. Most satisfactory solutions to permeability problems so far are found in the use of linings made of polymerable materials and applied to the interior of polyethylene bottles in a manner that makes them inseparable from the container.

Barriers are designed to keep the product from coming in contact with the polyethylene. There is no universal liner material. With respect to plastic bottles, this situation is no different from the many kinds of liners required for closures or the many combinations of films used in flexible packaging. Each lining must do a specific job. For example, the lining for the Ipana Plus dentifice bottle is designed to retain flavor, while the liner in a shampoo bottle must be developed to retain a perfume fragrance. Some products in unlined polyethylene bottles will cause side-wall distortion.

Products containing mineral oils or water-in-oil emulsions, such as hair tonics, are particularly troublesome to package in polyethylene. Linings must be used to prevent the lubricants from permeating the outer surface of the container. Linings that show promise can be screened in tests using Boston rounds of 4-oz. capacity and storing them for 28 days under accelerated conditions of temperature and humidity to calculate probable weight loss per year. Visual test methods are of little value in permeability evaluations. Permeability tests to determine liner function have been long and difficult, but weight tests appear to be the most satisfactory for commercial purposes, Mr. Parliman claimed.

Internal Linings for Plastic Containers—RALPH H. THOMAS, Director, Packaging Research Dept., Bristol-Myers Co. (Complete paper to appear in the December issue of Modern Packaging.)

Bag and industrial packaging seminar

Chairman, Howard Voorhees, Division Manager, Purchases, Union Carbide Corp.

Wirebound Corrugated Containers for Bulk Shipment of Granular and Powdered Materials—HENRY A. WALSDORF, Vice President, Package Research Laboratory. The use of expendable bulk containers for dry materials is growing, Mr. Walsdorf reported. And, to meet the needs of this packaging field, a wirebound corrugated bulk carrier—low in cost, easy to assemble and handle, stacks well and meets minimum carload weights—has been devised.

For a rail-car package, outside dimensions of 3 by 3 by 6 ft. were chosen because they represent the most efficient utilization of car and warehouse space. Structural elements of the container can be varied to suit the needs of the individual product. The containers come knocked down and can be set up in a minimum of time by two workers. No nailing is involved, since the bottom and sides are preformed from wood, wire and straps that lock together. The interior lining consists of 125-lb.-test corrugated material. An additional bag liner is recommended and can be constructed of either crepe kraft paper or polyethylene.

Various charts were shown to demonstrate the differences in weight, capacity, set-up time, handling ability and strength of the wirebound container and a standard all-corrugated bulk shipper, which has been on the market for about two years. The economics of these two packages were compared by Mr. Walsdorf.

A discussion followed concerning a smaller truck shipper, measuring 2.5 by 3½ by 2½ ft. Properties of this unit are similar to those of the rail-car container. It was noted that both of these wirebound containers can be knocked down and returned for re-use.

Multiwall Bag Sewn Closures . . . Reviewed and Appraised—T. E. DOWLING, American Cyanamid Co. In a slide-illustrated talk, Mr. Dowling reviewed five classifications of sewn closures for multiwall bags and specified the advantages of each as to moisture-barrier properties, cost and strength. The categories discussed were: (1) wax-dipped ends; (2) polyethylene-coated tape, heat sealed over sewing; (3) asphalt-laminated tape applied over sewing; (4) creped-kraft tape pasted over sewing; (5) sewn-through creped-kraft tape. While moisture transmission is lowest with No. 1 and progressively increases to No. 5, No. 2 offers slightly more protection at a lower cost than No. 3. No. 4 gives more protection at the same cost than No. 5.

In strength, No. 5 takes the lead, followed in order by Nos. 2, I, 4 and 3. The strength of these types can be increased, of course, by substituting rayon thread for cotton and heavier regular kraft tape for the creped material.

These tests, Mr. Dowling cautioned, are empirical and actual figures for individual products must be obtained by field tests. These laboratory figures, however, do indicate a starting point for product testing.

What's New in Flexible Industrial Containers— J. Sandford, Engineering Service Div., E. I. du Pont de Nemours & Co., Inc. Three new bag-making materials were chosen for discussion: plastic films, extensible kraft paper and scrim-reinforced paper. Illustrating his remarks with slides, Mr. Sandford described the recent work in developing single-wall shipping bags constructed of 10-mil polyethylene with a density of 0.920 and a melt index of 4.

The advantages of this container are its transparency, moisture resistance, re-use value, light weight, and chemical and weather resistance. These are partially offset by these disadvantages: slipperiness, static charge, price, the need to modify filling equipment and the fact that shipping

permits are necessary to use the bags.

While many of these latter problems are being worked out, price is a major disadvantage. Present multiwalls of paper cost from 10 to 20 cents apiece. The polyethylene bags cost from 20 to 30 cents. Large-scale usage may pull down this latter price and make the container feasible for greasy, hygroscopic, pharmaceutical and farm products.

Extensible kraft paper was described as having the advantages of toughness, lower shipping weight, flexibility and price. The disadvantages are sources of supply and also price. The reason for the dual listing of price is that an extensible kraft bag must contain 10% lower basis weight of paper to be competitive in price with a regular kraft multiwall. Because of the newness of the material, the sources of supply are limited, but should improve as more converters turn to the material.

Scrim-reinforced paper bags are even newer and consist of glass or rayon fibres arranged in cross fashion and bonded between two layers of paper. So far, they have only

been used to a limited extent.

How to Design and Test Unit Loads—W. FRIEDMAN, Manager, Consulting Engineering, Container Laboratories, Inc. After defining a unit load as a collection of individual items or even granules into a single unit for easy, intermittent, mechanical handling, Mr. Friedman divided his discussion into four categories: (1) large items that can be carried from one to four at a time; (2) small items that can be placed in a bulk container; (3) medium-sized items where protection is not considered and grouping is for convenience in handling; (4) packaged consumer goods needing high protection and small grouping.

Hazards that must be considered in designing unit containers include: equipment damage, involving punctures and abrasions from fork trucks and grabs; stacking that necessitates protection from stresses; handling in intraplant shipments, where settling or falling of individual units is a problem, and shipping damages caused by impact

and abrasion.

Much more work is needed in this packaging area to determine optimum design for these containers and adequate test methods to prove them out, Mr. Friedman noted.

Printed folding box seminar

Chairman, L. H. CASSERT, Industrial Packaging Co. Div., Continental Paper Co.

Letterpress—John K. Higgins, National Folding Box Co. Div., Federal Paper Board Co. As the oldest, simplest printing process, letterpress has the most applications to the carton field, Mr. Higgins stated. He quoted a Folding Paper Box Assn. report that 88% of its members' work is done by letterpress (80% flatbed, 8% rotary). He listed as letterpress's principal advantages: (1) higher gloss effects made possible by non-penetrating varnishes; (2) flexibility for last-minute copy changes at little cost and (3) fidelity and accuracy of reproduction.

The trend in carton design is toward finer screen reproduction, Mr. Higgins explained, but letterpress doesn't compete as well on this count. The finest screen it can adequately take is 133 line on some stock and 110-line screen for general work. However, it is fast—6,000 sheets

an hour in five colors—and can accommodate all sizes of runs from less than 1,000 boxes to more than 1,000,000.

Lithography—RICHARD WALTERS, U. S. Printing & Lithograph Co. The number of folding cartons produced in this country has grown from 136 million in 1940 to 900 million in 1958 and lithography has grown at just about double this rate. Recent technical progress in the 40-year-old process has been dramatic, Mr. Walters pointed out. Color masking has been improved so that lithographed cartons now reflect an exact reproduction of the original artwork. Press size is up to 76 inches. Slow-drying oil inks have given way to much faster-drying water inks (although litho inks still don't dry as fast as gravure). Stronger pigments, better coverage and less fading in lithography produce pastels and shading unequaled by any other process, Mr. Walters stated. Lithography can reproduce on a wide variety of boxboards.

The decision whether to use the lithographic process depends on the type and quality of board to be used, box design and color, end-product use and other factors. Mr. Walters expects continued expansion in the use of litho as marketing channels grow more complex. Litho is now up to 175-line screens on boxboard and screens will become finer as more advancement is made. But each step toward a finer screen requires more care and attention by artists

and pressmen.

Flexography—Richard Wells, President, Badger Carton Co. The probation period for this newest of printing processes is now over, Mr. Wells said. While bugs remain, flexography has proved its flexibility, its excellent reproduction of solid colors on inexpensive as well as top-quality boards and its multiplicity of color. It is particularly effective in printing solid opaque whites to upgrade cheaper boards. Flexographic inks will not muddy or change color. Flexography uses a rotary press with rubber plates. Flexography equipment already costs less than other processes and forthcoming plastic plates will reduce this further. The process is heavily automated, one of the main reasons for its competitive prices.

Flexography can run at a rate of 300 ft. per minute and is getting faster. It can print on 40-point stock, will take four to six colors and its set-up time is economically short. It still doesn't print as well on fluorescent stock as, for example, silk screen, but it is improving. It will probably always have to be undercoated in some way for use with fluorescent inks. Foil printing by flexography, on the other

hand, is excellent.

Screen Process—Fred Braun, Color Reproductions Co. Screen process is the most versatile of all printing processes, Mr. Braun stated. It can be used for long and short runs, large and small cartons. It can use opaque white ink and pastels with no show-through even on gray board and with a richness unduplicated in any other process. Many varieties of inks and degrees of gloss are available. It is particularly good for fluorescents, which need only one impression. The finished surface may have lift or be flat to the touch.

The great disadvantage of screen process is that it cannot take a fine screen. Mr. Braun pointed out that silk screen is "stymied" for most cartons because its maximum 65-line screen is too coarse. It is, however, excellent for display on heavier board. Screen process allows 2,200 impressions an hour. Make-ready is easily done and inexpensive, and areas may be highlighted when desired. Its rich coloring makes it particularly good for cosmetic cartons.

Gravure—J. A. ROGERS, Boxboard & Folding Carton Div., Continental Can Co. As with the other major printing processes, gravure has marked advantages and equally sharp drawbacks. It is important to recognize these and choose the correct process for the job at hand. Of any process, said Mr. Rogers, gravure gives the best solid coverage with brilliant metallic ink. It prints fine 150-line screens well

even on rough, hard surfaces or heavy stock. It is economical when top-quality work is desired. Inks are fast drying and smudgeless. Gravure does, however, have certain limitations, Mr. Rogers explained. While gravure can run 1,000 ft. per minute, this maximum speed is cut down by the lesser speed of die-cutting equipment. Yet it is impractical to do printing and cutting in two separate operations.

Copy changes run gravure costs up. And most gravureprinted cartons must be varnished for scuff resistance. Gravure's greatest advantage is its absolute uniformity of color at competitive prices, Mr. Rogers stated.

Tuesday luncheon address

Thought . . . for Packaging Food—E. A. OTOCKA, Vice President for Operations, National Biscuit Co. The greatest challenges now facing the packaging industry, Mr. Otocka said, are the high cost of packaging equipment, its slow speed, large floor-space requirements, inflexibility, high maintenance and poor design for 24-hr.-per-day operation.

After tracing the climb of Nabisco products from corner store to supermarket, from barrel to carton and from dump packs to sectionalized portion-control units in the carton, Mr. Otocka stressed the fact that all packaging ideas in the company had come from company personnel. Not one fresh idea for a new package or machine had come in from the outside. Nabisco built its own packaging machines.

Suppliers should add sales personnel that understand industry problems. A few companies have done this, but not enough. Possibly, there hasn't been an awareness of this problem and there should be a program to exchange ideas and problems between processors and suppliers. The Packaging Institute could start such a program.

The National Biscuit Co. has spent \$190 million over the past 10 years for new plants and equipment. But now there is a change among all companies from investment in new facilities to improvement of existing plants. To accomplish this trend, companies will have to adopt approaches never before tried.

Salesmen will have to stop being order takers. They will not only have to come up with good, new machines, but tell how these machines and the packaging materials will operate together. If progress in the next 50 years is to match the advances chalked up in the last half century, it will take the cooperation of everyone in the packaging field.

Hardware packaging seminar

Chairman, Roy D. CONNELL, J. Wiss & Sons

Builders' Harware Industry Combines Consumer Packaging with Long-Established Industrial-F. S. HANIEWICH, Lock & Hardware Div., The Yale & Towne Mfg. Co. Yale & Towne products are distributed through a vast network of different outlets, industrial and consumer. But with the postwar rash of home building and do-it-yourself, many Y & T products formerly aimed at an exclusively industrial market have now become consumer products. About three years ago Y & T's packaging committee began revamping the bulk of its line to take advantage of high consumer impulse-sales potential. There have been problems, Mr. Haniewich pointed out. Industrial wholesalers don't want to pay for more elaborate packaging suitable for retail display. Y & T is attempting to arrive at combined consumer/industrial packaging where volume warrants it. While the company does not use consumer packaging on strictly industrial items, savings on volume packaging usually allows use of more expensive consumer packaging across the board.

Hardware Packaging to Meet the Needs of the Modern Hardware Merchant-Walter L. Wirth, Na-

tional Retail Hardware Assn. While many packaging techniques developed for supermarkets are also suitable for hardware stores, often specialized adaptations are required to meet hardware stores' unique retailing needs, Mr. Wirth pointed out. There are 35,000 hardware stores in the U. S. doing more than \$3 billion in volume annually. Of these 35,000 stores, 15,500 (48%) do 80% of hardware volume. Hardware stores normally stock from 15,000 to 20,000 individual items in a relatively small store. For optimum display, manufacturers of hardware items should make their packages fit existing display fixtures.

Mr. Wirth suggested that hardware retailers will accept point-of-purchase material more readily if it offers product applications, use suggestions and helps educate untrained clerks. Labels should be clarified. The ideal package contains a full description of the product, its use, installation instructions, etc., on one side and full manufacturer's information on the other.

Packaging Needs of Consumer vs. Industrial in Hardware Products—W. H. Drews, Packaging Coordinator, Black & Decker Mfg. Co. (read by Chairman Connell). B & D has four basic product classifications: (1) electric tools for home use, (2) tool accessories for home use, (3) electric tools for industrial use and (4) tool accessories for industrial use. The first two categories are sold for the most part through retail outlets, the second two through jobbers and tool suppliers to industry. B & D has policies for the packaging of each product line flexible enough to be revised as marketing requirements change.

B & D's color scheme of black, white and orange and its distinctive logo are carried out on all packages. There is a strong family resemblance even for widely diversified packages and products. But the main consideration in each case is the package which will give most effective merchandising support to the product. B & D has ceased to think of packaging solely from a cost-reduction and standardization basis. Merchandising efficiency is now the No. 1 goal. The prime consideration now is not how cheaply the package can be produced, but how it will do in the marketplace.

Food packaging seminar

should be careful not to offend.

Chairman, L. J. HAYHURST, National Dairy Products Corp.

Food Packaging—the Show Case that Sells—Joann Shurph, Director, Dept. of Home Economics, Libby Mc-Neill & Libby. To understand a woman's approach to products and packaging, it must be understood that she is affected by various psychological factors, Mrs. Shurpit stated. Feminine characteristics also influence her decisions. She likes newness, though too wide a departure from familiar patterns is not acceptable. Superior in color perception, she also notices small details in packaging that are out of order. Sociability influences women's buying and what other

people think about a package or product is important.

Products and packages should be related to other people.
Feminine, wholesome illustrations and pictures of babies and children are very appealing. Couples, groups, men and animals do not rate high as illustrative material. A woman has a different sense of humor than a man and packagers

Women's complaints on packaging range from cellophane bags for rice, beans and other dry products to key cans, frozen fruit and vegetable packages, oversize boxes and cereal containers.

Some packages and components that they do like are those with built-in maid service—such as food mixes and food sets, boil-in-the-bag foods, aerosol cans and containers with measuring marks—and pre-packaged fruits and vegetables, tear-string openers, pouring spouts, plastic tubes and decanters, according to Mrs. Shurpit.

In the future they hope for package sizes to fit individual recipes, coupled items that go together (such as hot dogs · and buns), table-service containers, re-usable containers and more packages with built-in measuring devices.

Today's and Tomorrow's Materials for Consumer Packaging of Foods—J. M. Heinen, Manager, Package Engineering, Continental Can Co., Inc. With a new consumer being born every 71/2 seconds and a population increase of 44,000,000 expected by 1975, there is every reason to expect a boom in packaging that will match the 1939 to 1957 rise in packaging-materials shipments of 130%, Mr. Heinen stated.

Determination of the right package, however, depends on the establishment of realistic requirements, the selection of the right material, development and design, market testing and commercialization. In the selection of one of the four packaging materials-paper, metal, glass or plasticthe adequacy of the material and its structural performance as well as its merchandising advantage should be evaluated.

Following a review of the advantages and limitations of each type of packaging material, Mr. Heinen looked into the future. Metal, he said, will be lightened, as will tin coatings. There will be better linings for cans and highstrength adhesives for side seams. Aluminum cans are sure to become more attractive. Glass will continue to offer weight reductions and there will be improvements in packaging-line speeds and efficiency. Plastics will have the advantage of new thermoforming techniques. Composite containers will gain acceptance and there will be more aerosols and vending machines.

A Case Study of Market Development and Package Acceptance of the Tetra Pak Method-E. C. GARWOOD, Manager, New Products Development Dept., Crown Zellerbach Corp. Reviewing the introduction and development of the Tetra Pak method for forming a tetrahedron container, Mr. Garwood noted that it was introduced into the U.S. in 1956. Slides were used to illustrate the filling, forming and sealing machinery, while examples were cited of the package's use in milk, ice-cream and fruit-drink applications. Case histories showed where the package had to be modified to suit the American market with the changes occuring principally in the way the package is opened. The package uses a minimum amount of packaging material for the volume enclosed and there are machines for making the tetrahedrons in sizes to hold from ½ oz. to 1 qt.

Pathological Aspects of Pre-Packaging Fruits and Vegetables-G. R. DiMarco, Extension Associate, Food Science Dept., Rutgers State University. Discussing the effect of the pre-packaging environment on disease-producing organisms and the control of this environment, Mr. DiMarco advocated using pre-cooling and chemical treatments to reduce spoilage losses in fruits and vegetables.

Pre-cooling in hydro or standard refrigeration units prior to packaging or vacuum cooling after packaging are effective ways to reduce the field temperature of 70 to 80 deg. F. at which organisms have their optimum growth. Chemical insecticides for orchard sprays or treatment of the fruit after picking are other effective treatments.

Slides showing the differences between pre-cooled fruit and chemical-treated fruit and untreated control groups dramatized the reduction in spoilage in the first two groups.

New Plastic Package For Liquid Lemon Juice-OWEN K. BURMAN, Assistant General Manager, Exchange Lemon Div., Sunkist Growers. A new polyethylene package for lemon juice, shaped like an actual lemon, was discussed by Mr. Burman from the standpoint of merchandising and

The plastic "lemon" was first used in Europe for concentrated juice. The container has a limited re-use value and is primarily successful because it provides small amounts of juice in a convenient dispenser. Capacity of the container is 21/2 oz., though 1- and 6-oz, sizes also are available.

Production was developed on a semi-automatic basis. The

empty "lemons" are placed in jigs in a 6-oz. can and travel by conveyor to a 21-spout gravity filler, traveling at 120 per minute. After filling, polyethylene spouts are inserted by hand and a leaf-shaped paper label is hung around the spout. Molded-urea caps are applied by a capper, which grips the caps and lifts the "lemons" out of the jigs. A simple arm dislodges them into a chute, where they travel by conveyor to a hand casing station. A two-tier display carton is used. Product is stored at 35 deg. for best shelf life.

Check List for Supermarket Packaging-Henry KING, Managing Director, Super Market Institute. Packagers should know more about supermarket operators, Mr. King stated. These men are not experts on surface design, package shape or esthetics-but they are profit oriented, and profit and the package should go together. The market operator is unsophisticated and unimpressed with psychology and color-and packagers delude themselves when they think that these men can be creative. But they do know about volume, traffic and turnover, and can tell the packager a few things about ease of handling, brand identification, cubage and shelf space.

Taking only the master carton for discussion, Mr. King noted that the supermarket operators are asking for the same things today that they asked for back in 1949. They want identification on four sides of the shipping case, on the top and on the bottom. Lettering should be at least 1-in. high and there should be plenty of space for pricing.

Information on the case should include quantity of pack-

ages, size, variety and brand name.

Packagers should consider the weight and cube of their shipping containers. Many good products with real consumer demand have been thrown out by supermarket men because they could not be handled with safety.

The supermarket man has three problems: to increase his volume, lower his cost and train good workers. Packaging has a definite effect on the first two points.

Of considerable concern is the problem of pilferage Mr. King pointed out. It has been estimated that \$300,000 per day are lost in theft in the country's markets. The need for better packaging to prevent this drain is acute.

Closures seminar

Chairman, ROBERT C. DEWEY, Dewey & Almy Chemical Co.

Selecting Closures for Food Packaging-L. A. Von TILL, Kraft Foods Co. Choosing the proper closures for food packages is a complicated task in which nearly all company departments participate, Mr. Von Till explained. Among the questions which must be answered before final selection is made are these. Does the prospective closure have a high degree of consumer convenience? Are special features (usually at added cost) to be built into the cap to promote retail sales? Is the closure adaptable to fast production-line techniques? Is the seal airtight? Is the price as low as is compatible with high quality standards? Is the shell corrosion resistant? Does it grip the liner with enough pressure to make the soft liner adhere to the sealing surface to retain flavor and aroma and prevent contamination?

All of these requirements and more had to be evaluated before final adoption of a new package for Kraft peanut butter.

Mr. Von Till reported that Kraft's peanut-butter package checked out satisfactorily on all these counts: (1) it is convenient for consumers, even small children, to use; (2) the cap complements the jar in its re-use role; (3) the design is pleasing to the eye; (4) the cap carries out the promotional message contained on the label; (5) there is no mechanical loosening of the closure in shipping or storing; (6) the jar is easily resealed; (7) the jar's mouth accommodates a large spoon; (8) the package is relatively inexpensive; (9) cap and liner are impervious to corrosion,

are tasteless and non-toxic; (10) the jars may be packed at high speeds; (11) they come from reputable suppliers.

Modern Closure Coatings-G. M. SHIFFLER, Stoner-Mudge Co. Div., American-Marietta Co. The closure coating is the crowning glory of any well-designed package, Mr. Shiffler stated. Closure coatings must be evaluated for their adhesion, flexibility, hardness, color stability, product resistance and processing resistance. More packages need closure coatings today. Baby foods and meat products are good examples of this. Usually several closure coatings will meet at least some of the basic requirements, but it is necessary to use the proper equipment and testing devices on all prospective closure coatings before reaching a decision. Once the initial hurdles have been passed, a test pack should be produced and stored at room temperature and also at exceedingly high temperatures to check reaction. Laboratory conditions cannot ever completely duplicate actual conditions, but are much better than no testing at all. Mr. Shiffler pointed out that 100%-solid sealing compounds have caused new problems. They require a coating which will adhere to the closure without softening.

Why the Universal Closure Liner Is Such a Remote Possibility-Tracy Cowen, Asst. General Manager, Standard Insulating Co. The development of a universal closure liner may come eventually, according to Mr. Cowen, but it is highly improbable. Such a universal closure would first require a universal bottle, jar or container to go along with it. The universal liner would have to meet all the following requirements: (1) non-blocking from production line to consumer; (2) compatible or bondable to all backing materials with modern adhesives; (3) readily slittable, punchable and waxable; (4) attractive looking; (5) protective; (6) corrosion resistant; (7) non-toxic, odorless and tasteless; (8) low water-vapor transmission rate; (9) resistant to passage of aromatic vapors or flavors; (10) low gas-transmission rate; (11) abrasion resistant; (12) non-adhering to container finishes even at temperatures of 200 deg. F.; (13) reasonably low release torque; (14) nonloosening in shipment and storage, and (15) non-wrinkling in both conventional lining equipment and molded caps.

The industry could no more expect a single liner material to satisfy all these requirements than it could expect a single flexible packaging film to handle all types of products from sauerkraut to ball bearings, Mr. Cowen said.

Modern Closures of Aluminum-A. G. OSBORNE, Chief Chemist, Closure Div., Aluminum Co. of America. A chief objective of Alcoa's Closure Div. is to increase use of aluminum closures through imaginative new uses rather than simply the substitution of aluminum for materials formerly used, Mr. Osborne pointed out. Aluminum was first used in the Goldy seal of 40 years ago. Aluminum Steri-caps are the Goldy's modern counterpart. Mr. Osborne outlined the evolution of aluminum caps. The RO seal is an unthreaded, unfinished cap which conforms to all jars regardless of dimensional variations. The pilferproof RO seal is larger and deeper. It provides a tamperproof band which indicates clearly whether the cap has been previously opened. The top-side RO gives top and side sealing characteristics and allows for economies in lining materials. By using aluminum, machines today can seal containers ranging in size from 2 cc. to I gal., faster than 400 units a minute, Mr. Osborne said.

The Future of Plastic Closures in the Food Industry-R. S. SHOEMAKER, Coordinator for Packaging, The Dow Chemical Co. Dow has eight development programs under way, four of them on closures. Research at Dow gets a very high percentage of the sales dollar. Much research is being aimed at improved printability of injection-molded polyethylene and polystyrene. Polyethylene closures are being used increasingly in herb and spice packaging and for removable pill-box tops for medicine bottles.

Injection machines today can handle anything from 1 to 400 ounces. Each fabricating application must be considered individually for best results. There is a good possibility that vacuum-formed closures will be coming along this year. Injection molding is generally cheaper than compression molding.

Polystyrene provides styling, performance and economy, but it still needs a good method for gold coloring. Expensive metalizing is now required and probably will be for some time. Polystyrene is tough. Users can mix generalpurpose and impact grades for the exact degree of strength necessary. Plastic prices have been tending down in the last few years and should prove more and more competitive.

Flexible packaging seminar

Chairman, P. B. REUMAN, Film Dept., E. I. du Pont de Nemours & Co., Inc.

Review and Outlook of Flexible Packaging-CHARLES A. LEWIS, Director, Containers & Packaging Div., B.D.S.A., U.S. Dept. of Commerce. Hardly anyone would argue that flexible packaging isn't a growth industry. In a decade it has grown in volume to somewhere upwards of a billion dollars annually.

Mr. Lewis quoted Government statistics to illustrate trends developing ahead. There is limitless opportunity for flexible packaging in an era of abundance, he said, pointing out that the United States, with 6% of the world's population and 7% of the land, consumes 1/3 of the world's goods and produces half its total manufactured output.

Other facts indicate the strength of the economy: national production 2½ times greater than in 1929; population growth of 100 million since 1900, reported at 175 million for 1958 and expected to be 225 million by 1975; national income up from \$73 billion in 1939 to \$364 billion in 1957, with an outlook of steady growth to \$430 billion by 1965.

He presented tables showing that the per capita consumption of flexible packaging materials has increased from \$9.70 per capita in 1947 to \$14.71 in 1957, with estimated consumption of \$17.55 and \$20 per capita, respectively, in 1965 and 1975. This was compared with per capita consumption for all packaging of \$37.46 in 1939 and an estimated \$81 in 1975.

He spoke of new areas in which better films will be needed-a film for outer-space use with the characteristics of human skin, yet which would be edible-new films in which to package irradiated foods, 24 of which, he said, were under study by a Government irradiated food committee that has been taken out from under the military.

The Polvolefin Resins and Their Future Possibilities-Charles A. Southwick, Jr., Technical Editor, Mod-ERN PACKAGING Magazine. The name, polyolefin, is one that has come into use to designate many of the plastics resins developed from petroleum derivatives. Two of the more important polyolefins used in packaging are the polyethylenes and the polypropylenes. There are two reasons for the spectacular growth of these materials-price and performance. And there is evidence that future cost trends will place these resins and films in an even better economic position. Continuing advances in resin technology are also broadening the performance and use range of polyolefins. Presently there is a serious lag in the development of all types of equipment to convert these resins efficiently into useful forms and finished packages. This deficiency must and will be removed as processes and equipment designed for handling thermoplastic resins and films with a wide range of properties are made available. Not until this is done, said Mr. Southwick, can the polyolefins realize their full potential as dominant materials for packaging.

Films for Prepared Foods -DR. R. E. Morse, Dept. of Food Science, Rutgers State University. Dr. Morse thinks more attention should be given to the packaging of convenience foods for the quick breakfast instead of putting all emphasis on the quick dinner. Outside of a few packaged muffin mixes, very little thought has been given to packaging for breakfast—the meal which is usually the most hurried. This was only one of several stimulating ideas he suggested. Most housewives have become a little ashamed of assembly-line foods, he said. And because their honor in cookery is at stake, some manufacturers have backed out of too much preparation—letting the homemaker add some of the seasoning, flavorings or other ingredients that give her a better feeling of preparing the dish herself. He criticized some convenience foods which, instead of being time savers, actually take more time to prepare than conventional foods.

Many food processors are small operators, who need the technical assistance of suppliers. For these he recommends a central information source be set up about packaging films. This would help advance the use of films, he believes, and keep an ear to the ground to learn about problems.

Film and Foil Combinations of the Future—Ross C. Reed, Product Development, The Dobeckmun Co. Explaining the reasons for building protective properties into films to do specific jobs, Mr. Reed described some of today's laminated constructions. He cited some of the new techniques in film converting required for numerous functional and decorative purposes: polyethylene extrusion methods used in laminating the web instead of combining films with an adhesive; the use of primers or adhesion promotors; advances in full-color photographic reproductions on flexible materials to meet the demand for greater illustrative realism; the use of over-lacquers and varnishes to impart gloss and more protective surfaces.

He mentioned the new vacuum-metalizing technique of applying a thin layer of aluminum to the surface of films—a method that gives greater reflectivity to a surface than aluminum foil. He said study is continuing to improve film combinations for cook-in-the-bag packages and to find practical structures for flexible packages to hold liquids.

He predicts a bright future for flexible unit packages for sampling and for pre-measured or pre-counted, single-service food packages, particularly in mass-feeding operations.

Packaging Meats for Self Service—J. M. RAMSBOTTOM, Head of Packaging Div., Swift & Co. More than 200 meat items are being packaged today in films, foils or paperboard, said Mr. Ramsbottom. Meats are no exception to the change in merchandising and must be given sales appeal by the protective features built into their flexible packages. Cured meats can be packaged satisfactorily in films at the packing plant, but the packaging of red meats is more difficult. Most packaging of fresh red meats is done today in supermarkets and centrally located warehouses, because of the problem of preventing discoloration for longer periods.

The meat industry is hopefully studying polystyrene, polypropylene and low-density polyethylene films for an answer to the discoloration problem. Interesting experiments have indicated that red meats in ½-mil polyethylene film stay brighter longer than meats packaged in 2-mil films.

Mr. Ramsbottom mentioned some of the efficient packages for cured meats—the shrinkable vacuum packages for hams and poultry, the window cartons for bacon that offer better keeping qualities at lower costs, the shrinkable packages for frozen meats.

Wednesday luncheon address

The Theme for 'Professional Day'—DR. WARD D. HARRISON, Vice President, Riegel Paper Corp. TAPPI is proud of the cohesiveness and mutual objectives shared with the Packaging Institute, said Dr. Harrison. This is especially true of the high stature which both groups give to their technical and professional men. Twenty-five years ago during the depression, with jobs scarce, paper manufacturers still veiled

their operations in mystery. The technical man was barely accepted. Today while producing three times as much paper for a country which is consuming two and a half times as much per capita, the industry has taken on a new life—and a new respect for the technical man's ability. TAPPI and PI have been an energizing force, Dr. Harrison stated. They have provided stimuli for further technical developments: new pulping and bleaching processes, greater strength, faster machines. Technical men today are moving up into administrative, research and sales jobs. It makes little difference where the professional man gets his background, but once he acquires truly professional stature he grows in dignity. Association work is a good place to get and give help.

Joint Packaging Institute-SIPMHE special technical sessions

Co-chairman, A. W. Hoffman, Robert Gair Div., Continental Can Co.

Discussing palletless unit loading, ARTHUR SPINANGER, Procter & Gamble Co., described the advantages to P & G by handling such loads by clamp truck. The development of palletless unit loads started as a cost-reduction project. Wood pallets had proved very satisfactory in use, but their cost of upward of \$3.50 each represented a large cash outlay when bought by the thousands. The company's industrial engineering division began a study of paper sheet pallets which resulted in P & G's Pul-Pac pallet in conjunction with a special truck development by the Clark Equipment Co. But even at only 50 cents apiece, the question arose, "Why use pallets at all?" The clamp truck was developed which today gives the same or better results in quality, safety, appearance, space saving and speed.

Many people were surprised when Johnson & Johnson abandoned its six-year-old Eastern Surgical Dressings Plant for a new one at North Brunswick, N. J., said Frank P. Coons, J & J Packaging Engineer. He outlined advantages of the new plant which made the move economically advisable. The old plant was limited by railroad and highway inadequacies. The new plant is located on 300 acres situated between the Pennsylvania Railroad and U. S. route I, offering unlimited transportation services. Its three major interconnecting buildings are linked by an electronic tow-veyor, which provides a constant stream of finished goods from manufacturing to shipping center, delivers raw materials from one location to another and carries out waste.

The future of packaging and handling manpower was discussed by Prof. W. L. LYNAM, Case Institute of Technology. Dr. Lynam reported on a survey made recently of the packaging industry's manpower needs. Some conclusions: 67% of the respondents wanted personnel with college education, 82% wanted college as well as practical experience. Only 7% of the companies replying offer their own packaging and materials handling training. Yet there is a crying need for more trained personnel. The packaging and materials-handling industries except to double the number of employees now working within the next five years. Naturally, the industry wants more specific packaging courses in college engineering courses, said Dr. Lynam. At the same time, there is added pressure on the engineering schools for more humanities, more nucleonics and electronics. Something will have to give and it's unlikely that either packaging or materials handling can expect much more emphasis at the college level. It is unrealistic to expect such support now, Dr. Lynam said. Probably the most likely channel is through the back door with SIPMHE members cooperating to interest engineering students in these fields.

An address on "Environmental Hazards of Export and Domestic Transportation," by R. H. Macomber, Manager, Marine Service Dept., Insurance Co. of North America, was of special interest to manufacturers and suppliers who package for the Government and overseas shipment.

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New saran-type film

Packaging properties and characteristics of a modified Cryovac, now produced as a heat-shrinkable flat film for wrap applications

By Donald E. Westcott*
and Howard H. Reynolds†

Saran films are well known for their excellent physical and protective properties. High clarity and sheen, together with very low permeability to water vapor and gases and excellent resistance to grease, oils and acids, are highly desirable properties in food-packaging materials. A new, flat, Cryovac film, made from a type of saran resin, combines these properties with a high degree of controlled heat shrink, easy heat sealing and excellent handling.

The new film differs from the material in the previously known Cryovac bags in that the formulation has been modified slightly to give the necessary properties, such as clarity and strength, to the thin-gauge flat material. The new material is produced as a flat film in roll form, as opposed to Cryovac bags, which are cut from extruded tubing and sealed at one end.

Properties of packaging films must be tailored to the requirements of the products for which they are intended. Cryovac film is directed mainly at the packaging of processed meats, poultry and cheese, where its protective and appearance properties are extremely important. The new film, available in 60, 75 and 100 gauge, plain and printed, provides protection against moisture loss and microbiological spoilage, while at the same time offering a high degree of sales appeal.

The film is specially formulated, using a sarantype copolymer (polyvinyl chloride-polyvinylidene chloride). It is extruded into a highly oriented, thin-gauge tubing, which is then slit and wound into roll form. The orientation of the film imparts the shrinkable feature enabling a skin-tight or cling packaging process. Table I summarizes the more important packaging properties of Cryovac film.

Heat shrink

Cryovac film, being biaxially oriented, undergoes uniform shrinkage upon exposure to heat. This is explained as follows: When saran polymer is first extruded, it is amorphous in nature. Immediately after extrusion, it may be oriented in two directions, longitudinally and across the web, by uniform stretching. Then it is allowed to crystallize in this form. Upon subsequent exposure to heat (hot water or hot air), some of the polymer crystals are melted,

FIGURE 1
% SHRINK FREE SHRINK OF CRYOVAC FILM

60

50

40

30

20

10

140

150

160

170

180

190

200

20 TEMP

GE G

ADA

^{*}Packaging Development Engineer and Manager, Technical Dept., The Cryovac Co., div. of W. R. Grace & Co., Cambridge, Mass.

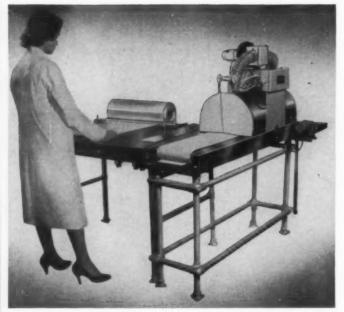


Figure 2. Set-up for hand wrapping, including film dispenser, hotplate, hot-air shrink tunnel and conveyor. Calibrated wrapping surface allows accurate measurement of film lengths.

Table 1: Properties of Cryovac film

General	
1. Clarity	Clear or colored
2. Specific gravity	1.58
3. Yield sq. in./lb./mil	17,500
Mechanical	
4. Tensile at 73 deg. F.	
lb./sq. in.	7,000-11,000
5. Elongation at break %	70-120
6. Burst strength (Mullen)	35-40
7. Tear strength (Elmen-	
dorf) gm./mil	Over 25
8. Folding endurance	Excellent
Chemical	
9. Water absorption (24	
hr. immersion)	Negligible
10. WVT (gm./100 sq.	
in./mil/24 hrs. 100	
deg. F. 95% r.h.)	1.0
11. Permeability to gases	Very low
12. Resistance to acids	Excellent
13. Resistance to alkalis	Good except NH ₄ OH
14. Resistance to oils and	
greases	Excellent
15. Resistance to organic	
solvents	Good to excellent
D	

270 deg. F.

290 deg. F.

Excellent below 76 deg. F.

Self extinguishing

Good

allowing them to flow and contract to an extent controlled by the extrusion conditions, orientation conditions, formulation and temperature,

Free or unrestrained shrink may be as high as 60 to 70% in both directions, resulting in an overall 80% decrease in area. Figure 1 illustrates the relationship between shrink and temperature. A short exposure of 1 to 2 sec. in hot water or hot air is all that is required to shrink the film, producing a package with a close, contour fit. This contributes to greater protection of the film from puncturing and abrasion, and increases the sales appeal of the packaged product.

Sealing

Cryovac film heat seals at relatively low temperatures, between 190 and 215 deg. F. Although it is not a complete weld or fusion, this seal has a shear strength approaching the tensile strength of the film, has adequate peel strength and stands up well under commercial conditions.

Low-temperature sealability has resulted in the development of another method of sealing using hot water (200 deg. F.) as the heating medium instead of a hotplate or sealing bars. In this method, the product is snugly overwrapped with film and then immersed in hot water, which "shrink seals" the overlapped film.

A modification of this method has been developed to give the advantages of vacuum packaging to frankfurts, smoked butts and other suitable products. In this method, the product is placed on a sheet of film which is then folded over to form a tube with a 1½-in. overlap. The overlap is sealed by moving the product across a sponge-rubber roller partially immersed in hot water. The air is removed from the side-seamed tube by a vacuum nozzle. Next, the ends are twisted into tight "pigtails." Shrinking completes the operation and seals the "pigtails" to prevent untwisting. Figure 3 illustrates steps in this packaging method.

Water-vapor permeability

Moisture loss or gain of packaged products is one of the most important deleterious changes against which a packaging material must guard. A low water-vapor permeability is usually essential in order to maintain the initial weight and quality of a product. Shrinkage not only is responsible for financial loss to the producer, retailer or consumer, but it may result in a severe lowering of quality and, consequently, reduced sales.

The new Cryovac film has a water-vapor permeability of 1 gm./24 hrs./100 sq. in./mil. This is considered adequate to eliminate moisture loss in most refrigerated products and to prevent freezer burn

16. Softening point

18. Resistance to sunlight

20. Resistance to storage

 Dimensional change at high r.h.

17. Melting point

21. Flammability

Table II: Water-vapor permeability of various packaging films

(Gm./24 hrs./100 sq. in./mil at 100 deg. F., 90% r.h.)

Cryovac film (standard)	1.0
Polyethylene	1.0
Pliofilm 75 BF	2.6
Cellophane (flat) 300 MSAD86	0.6
Polyester (Mylar)	1.8
Saran (Type 5)	0.2

Table III: Oxygen permeability of various packaging films

(Ml./sq.m./24 hrs./mil at 75 deg. F., 0% r.h.)

Film	Pe^{\pm}	
Cryovac film (standard)	200	
Pliofilm (75 BF)	830	
Polyethylene	7,000-12,000	
Cellophane (300 MSAD86)	100	
Polyester (Mylar)	130	
Saran (Type 5)	100	

*Pc corrected for gauge to I mil

in most frozen foods. However, "in-package" dehydration will occur during frozen storage if there are free air spaces in the package. The water-vapor permeability of other packaging materials is given for comparison in Table II. It should be noted that the permeability of some materials, such as certain cellophanes, increases markedly when they are creased or in contact with grease or oil. Cryovac film, however, is unaffected by these conditions.

Oxygen and odor permeability

Spoilage of many foods is largely a function of the oxygen permeability of the packaging material. Oxygen is required for the growth and development of mold; it accelerates the growth of many spoilage bacteria and causes fats and oils to turn rancid. It contributes to the color fading of cured and smoked meats, such as ham and bacon, which turn from a light pink to an unappealing brown color. Although we have no actual figures, we may logically assume that oxygen permeability is largely a function of temperature—the permeability decreasing with decreasing temperature. The activity of gas molecules decreases with temperature, resulting in fewer impacts of gas molecules on the film and therefore lower permeability. This fact is significant with food products stored at refrigerated as well as frozen temperatures. As shown in Table III, the new film has a very low permeability to oxygen.

"Cling" packaging with a film by shrinking it snugly around the product increases the film's effectiveness against oxidation by excluding ambient oxygen. It has been demonstrated many times that

Figure 3. Sequence shows the method of vacuum packaging frankfurters in new flat Cryovac film fed from a roll. The gas-resistant, grease-resistant, transparent film, which is biaxially oriented, seals readily at 190 to 215 deg. F., using hot water as the heating medium.



Wrapping



Hot-wire cut-off

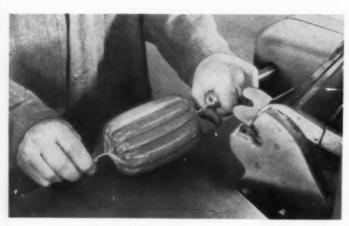


Side seaming with hot water (Photo sequence continued on next page)

(Photo sequence continued from preceding page)



Vacuumizing



Twisting "pigtails"



Finished package after shrinking in hot water

Table IV: Color fading of half hams at 40 deg. F. (Approximately 60 foot candles of white fluorescent light)

Film	Time, hrs. of light exposure
Cellophane (300 LSAD)	7
Pliofilm (75 BF)	7
Cryovac film (bridged)	19
Cryovac film (in contact)	120

the effects of oxidation are less when the film is in contact with the product than when bridging and air pockets occur. As shown in Table IV, the cut faces of half hams maintained a good pink color for 120 hrs. of light exposure when tightly shrink packaged in Cryovac film; however, the pink color faded to brown after 19 hrs. if bridging of film or air pockets were present. Thus, the combination of low permeability and careful shrink packaging can result in a package with maximum shelf life.

The oxygen permeability of a packaging film is a good indication of permeability to other gases $(CO_2,\,N_2)$ and organic vapors or odors. The odor of foods packaged in Cryovac film is not detected through the package. Products such as ham and bacon retain their fresh-smoked aroma for extended periods of time. In addition to preventing flavor dissipation, films with low permeability rates guard against absorption of foreign odors and flavors.

Grease and oil resistance

Saran films by their very nature are highly resistant to greases and oils of all origins—animal, vegetable and mineral. This is an important feature when packaging meats, cheese or other fat-containing foods. When fats or oils permeate through a packaging material, they weaken the package, create an undesirable appearance, may cause a separation of film laminates and, in printed films, may affect ink adhesion properties.

Dimensional stability

Since the new Cryovac film is virtually unaffected by moisture, it is dimensionally stable to changes in relative humidity. Although at elevated temperatures it undergoes a controlled shrinkage, it is stable at or below room temperatures. Recommended storage temperature for the film is below 76 deg. F. Higher storage temperatures for prolonged periods may result in film shrinkage.

Yield

Because of its high specific gravity, the yield of Cryovac film per mil (17,500 sq. in./lb.) is lower than that of some other [Continued on page 207]

Degradation of cellulose by light

Study of evolution of gaseous products during ultraviolet exposure indicates reasons for breakdown in packaging materials

By Joseph H. Flynn, William K. Wilson and William L. Morrow*

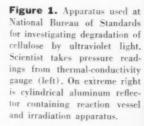
The study of the irradiation in a vacuum of polymeric materials that contain specific functional groups holds several advantages over the gas-phase photochemical studies of smaller organic compounds containing such groups. In the former, the gaseous dissociation products of the primary process may be allowed to diffuse from the system to a collection point. The reactions of labile dissociation products attached to the solid are minimized due to their immobility and these products may be characterized to some extent after exposure to various gaseous atmospheres. Thus, complicating kinetic chains can be eliminated and the interaction of reactants, intermediates and products can be kept at a minimum.

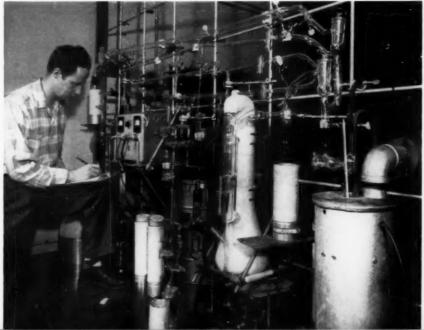
Cellulose is a substrate that is particularly adaptable to this type of study. Celluloses containing various amounts of carboxyl, aldehyde and other groups are easily prepared and quantitative procedures are available for determining concentrations of these groups before and after irradiation.

The photochemical degradation of cellulose has been extensively investigated, as it is an important cause of deterioration of textiles and paper. Past investigators have found that the irradiation of cellulose with 2537-A light results in considerable degradation both in the presence and in the absence of oxygen. Increase in carboxyl and reducing groups upon exposure to air after irradiation has been noted; carbon monoxide and carbon dioxide have been observed as gaseous products, and decrease in glucosidic linkages has been evidenced by loss in strength, decrease in per cent alpha-cellulose and decrease in degree of polymerization (D. P.) (1) †.

The amount of degradation was independent of the presence of oxygen during irradiation and was inhibited by water vapor (2). A post-irradiation decomposition took place at a very low rate in the presence of oxygen (2, 3), suggesting the presence of labile dissociation products in the irradiated polymer.

This paper describes the irradiation of purified, dried, cotton cellulose in an evacuated system with 2537-A light. The composition and rate of evolution of gaseous products were measured and





^{*}The authors are with the National Bureau of Standards, Washington, D, C,

Numbers in parentheses identify References appended.

changes in functional group content and degree of polymerization of the irradiated cellulose were determined.

Experimental procedure

Preparation of cellulose. Clean cotton sliver was purified by a modification of the method of Warner and Mease (4). The purified cotton was cut into quarter-inch lengths, beaten with the minimum amount of distilled water in an agate mortar and made into sheets on a British handsheet machine. These sheets were cut to form rectangles of 92 cm.², 0.0018 cm. thick and weighing 0.86 gm. These were dried by occasional heating at 100 deg. C. in the irradiation apparatus for more than a week until the system would maintain a pressure of less than 10 fmm. of Hg.

Irradiation of cellulose. The reaction vessel and irradiation apparatus are shown in Figures 1 and 2. The cellulose sheet was placed around a cold finger through which water from a constant-temperature bath was circulated. The cold finger was sealed into a large quartz tube which was inserted axially into the irradiation apparatus and connected by a stopcock to the vacuum manifold.

The cellulose was irradiated by five Hanovia quartz low-pressure mercury lamps spaced evenly about the interior of an etched cylindrical aluminum reflector. The lamps were controlled by separate Variacs and transformers, and their operating temperature was maintained at 50 deg. C. \pm 1 deg. by an air blower, as their output is quite

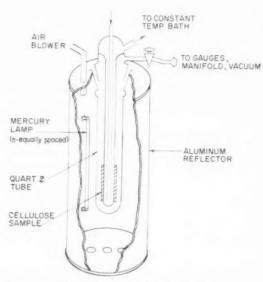


Figure 2. Partially cutaway view of the cylindrical aluminum reflector containing reaction vessel and irradiation apparatus,

Table 1: Gaseous products from irradiation of cellulose in a vacuum

	Component		
	H_2	CO	CO:
Mole per cent	87.5	8.2	4.3

dependent on temperature (5). Under these conditions, the energy in the ultraviolet region results almost entirely from the 2537-A Hg, line. The intensity of the irradiating light was calculated from periodic calibration of the lamps in place in the reflector by a selenium photovoltaic cell with a Willemite converter. This sensing device was calibrated against a standard 2537-A source by the Radiometry Section of the Bureau and used in its most sensitive range.

The pressure of evolved gas was measured by a thermocouple gauge and a discharge gauge of the RCA vacuum gauge unit, Type EMG-1, and by a McLeod mercury manometer.

Analysis of gaseous products. The composition of gaseous products was determined with a mass spectrometer. Also, the per cent hydrogen of the gases in the system was estimated by comparison of the thermocouple and McLeod gauge readings.

Analysis of the irradiated cellulose. The irradiated cellulose was stored for several months in air and was analyzed to determine changes in the degree of polymerization, carboxyl content and aldehyde content.

The weight-average D. P. was calculated from cuprammonium viscosity data using a relation developed by Battista (6). The cuprammonium solvent was prepared by the method of Launer and Wilson (7). The cellulose was dissolved in the cuprammonium solvent in glass vessels containing copper and filled with solvent to exclude air. The viscosities of the 0.50% by weight cellulose solutions were determined with Ostwald-Cannon-Fenske viscometers calibrated with NBS standard oils.

The carboxyl content was determined by a modification of Davidson's methylene blue adsorption method (8). Automatic 1-mil pipets coated with Dow Corning 200 fluid were used to deliver the centrifuged methylene blue solutions to volumetric flasks for dilution. A Beckman Model DU quartz spectrophotometer was used for the absorbance measurements.

Aldehyde was determined by oxidation of the irradiated cellulose with a solution of sodium chlorite in HOAc-NaOAc buffer (pH=3.5, ionic strength=0.11) at 40 deg. C., followed by determining the amount of chlorite consumed (9). In

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calculating the aldehyde content, an equation developed from the kinetics of the oxidation of glucose with this reagent was used (10).

Reflectance. The reflectance of the cellulose sheets was measured by comparison with a fresh surface of magnesium carbonate. The latter reflects 72% of the 2537-A radiation (11). The cellulose sheets initially reflected 55% and transmitted 1.8% of the 2537-A light.

Results

Gaseous products. Hydrogen, carbon monoxide and carbon dioxide were evolved during the irradiation. The mole per cent of hydrogen decreased with increasing dosage and could be extrapolated to an initial value of 92%. Table I gives the results of the mass spectrometric analysis of gases evolved during an irradiation of 2.84×10^{-4} Nhv/cm.² at 40 deg. C. where N is Avogadro's number, h is Planck's contant and v is the frequency of the irradiating light.

The rate of hydrogen evolution fell off with increasing dosage, but behaved erratically at higher total gas pressure. In order to minimize the reaction between gaseous products and the irradiated cellulose, the system was alternately isolated and evacuated for 5-min. periods during the irradiation for many of the runs. Thus, the total gas pressure was kept below 0.03 mm. A plot of the square of the reciprocal of the rate of hydrogen evolution versus dosage (time) gave a linear relationship indicating conformance to the parabolic rate law (12) given in equation [1]:

$$\frac{dx}{dt} = \frac{k}{1 + ax} \tag{1}$$

where t=time, x=moles of hydrogen formed, and both k, the initial rate, and a are constants. A plot of log k for a particular cellulose sheet versus log intensity resulted in a straight line of unit slope for intensities of 13.4×10^{-9} , 9.62×10^{-9} and $6.49 \times$ 10.9 Nhv/cm.2 sec. The intensities recorded in this paper and used in the calculation of quantum yields are probably accurate to within ±2%. Therefore $k=Ia\Phi$ н where Φ н is the initial quantum yield of hydrogen and Ia is the intensity of absorbed light. It was assumed in the calculation of quantum yields that 43% of the light was absorbed. For a series of cellulose sheets of D. P. 1,710 containing initially 3.7 × 10⁻⁶ equivalents of aldehyde per gram and 6.3×10-6 equivalents of carboxyl per gram, $\Phi_{\rm H}$ =0.0130 mole/Nhv for the above intensities. A second series of sheets of D. P. 1,910, containing 6.4×10^{-6} aldehyde and 8.3×10^{-6} carboxyl gave ΦH=0.0097. The intersheet variation

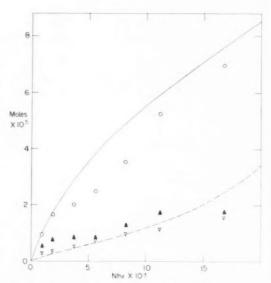


Figure 3. Degradation products of cellulose radiated by ultraviolet light. Graph shows number of moles formed of aldehyde (o), carboxyl (▲), hydrogen (solid line), carbon monoxide and carbon dioxide (broken line) and chain fractures (△), plotted against time of exposure to 2537-A light at 40 deg. C. The close parallel shown between the amounts of carboxyl formed and the calculated number of chain fractures indicates that these reactions may be related.

in $\Phi_{\rm H}$ was less than $\pm~10\%$. Values of the constant, a, for the two series varied erratically between 6.0×10^6 and 10.0×10^6 moles⁻¹ and could not be correlated with intensity.

The rate of evolution of carbon monoxide plus carbon dioxide remained relatively constant. However, from values obtained from a run at $9.62\times10^{-9}~\mathrm{N}hv/\mathrm{cm}$. sec. at 40 deg. C., the rate of evolution of these gases decreases at first, passes through a minimum and then steadily increases. The rate was proportional to the first power of the intensity, and the zero-order rate equation showed a combined quantum yield of carbon monoxide and carbon dioxide of $10.9\times10^{-4}~\mathrm{moles/N}hv$ for the first series of cellulose sheets and $8.0\times10^{-4}~\mathrm{for}$ the second series.

Functional groups. Table II contains degree of polymerization (D. P.) and equivalents per gram of aldehyde and carboxyl groups for a series of cellulose sheets that received various dosages of 2537-A light at 40 deg. C.

The D. P. in Table II was calculated from an equation relating cuprammonium viscosity with weight-average D. P. obtained from sedimentation data (13).

If the gradient in dosage follows Lambert's law,

Table II: Results of analyses of irradiated cellulose

Dose	D.P.	RCHO	RCOOH
Nhv/g		Moles/g	Moles/g
0.00×10^{-3}	1,710	0.37×10^{-8}	0.63×10^{-3}
1.09	1,270	1.43	1.23
2.18	1,200	2.27	1.51
4.35	1,070	2.70	1.60
6.52	940	3.27	1.58
9.57	870	4.46	2.11
13.05	790	6.51	2.64
19.58	690	8.47	2.65

the number of chain scissions can be calculated from initial and final weight-average D. P.'s, the absorption coefficient and the thickness of the sheet by assuming random fractures of an initially random distribution (14).

The absorption coefficient for unit thickness is 3.22 for the sheets described in Table II.

Figure 3 contains the moles formed of aldehyde, carboxyl, hydrogen, carbon monoxide and carbon dioxide, and chain fractures versus dosage of 2537-A light at 40 deg. C. for the 0.86-gm. cellulose sheets described in Table II.

Interruption of the irradiation by an evacuation for several days at 100 deg. C. had no effect on the kinetics of gaseous evolution. A period of treatment with hydrogen followed by evacuation also had no effect. Treatment of the irradiated sample with oxygen followed by evacuation at 100 deg. C., however, caused a temporary inhibition of evolution of gas upon resumption of the irradiation.

Discussion

The only direct measurement of the primary process in these experiments is the measurement of the rate of evolution of the gaseous products.

Before the measurement of change in carboxyl, aldehyde and D. P., the irradiated specimens which contained oxygen-labile groups had been stored in air for several months until presumably all photo-sensitized oxidation was complete. The specimens may have been further modified by the fracture of alkali-sensitive linkages during the viscosity determinations and by the acidic reagents used in the carboxyl and aldehyde determinations. Since the more-crystalline regions of the cellulose are not completely accessible to the latter two reagents, the carboxyl and aldehyde values may be low. However, a dosage of 0.02 Nhv produced 8.5×10⁻⁵ mole of hydrogen from a sample that contained initially 0.32×10⁻⁵ equivalents of aldehyde and 0.54×10⁻⁵ equivalents of carboxyl groups. Thus, even if the values for aldehyde and carboxyl are

somewhat low, the amounts of aldehyde and carboxyl initially present are quite insufficient to account for the amount of hydrogen formed during the irradiation.

The evolution of hydrogen upon irradiation of cellulose with 2537-A light has not been noted by other investigators (2). The prolonged degassing of the cellulose and the maintenance of a high vacuum during the irradiation apparently removed traces of water, absorbed oxygen or some other substance that either inhibited hydrogen formation directly or reacted with any hydrogen atoms produced before they could combine to form molecular hydrogen.

If hydrogen were formed by reactions involving the glucoside linkages, it would be necessary to postulate that these reactions do not involve chain scission because the ratio of chain scissions to molecules of hydrogen formed is 0.18.

A plausible explanation of the source of hydrogen is the photolysis of alcohol groups by the overall reaction in equation [2]:

$$C + hv \rightarrow C = O + H_2$$
 [2]

known to take place when simple alcohols are irradiated in the gas and liquid phases at below 2000 A (15, 16). Simple alcohols are transparent to 2537-A radiation.

Simple aldehydes and ketones fluoresce in the ultraviolet and are decomposed photochemically in the gas phase to produce carbon monoxide, various hydrocarbons, a little hydrogen and, in the case of ketones, RCOCOR (17).

Although the reducing groups in cellulose may not be present as free aldehyde, these groups and any aldehyde groups formed from the irradiation of primary alcohol groups in the cellulose might be expected to react analogously to gas-phase photo-decompositions as in equation [3]. Likewise, keto groups from the photolysis of the secondary alcohol groups might react as in equation [4].

$$XCHO + hv \rightarrow X + CHO \rightarrow CO + \frac{1}{2}H_2 + X$$
 [3]

$$XCO + hv \rightarrow X - CO \rightarrow CO + X$$
: [4]

where X represents the remaining cellulose chain which may contain free radicals or other labile groups.

The increasing carbonyl concentration from reaction (2) at the surface of the cellulose sheet would act as a nonvolatile filtering layer that would decrease the rate of photolysis of the alcohol groups. This effect can explain the product-in-hibited rate equation for [Continued on page 201]

This consultation service on packaging subjects is at your command. Simply address your questions to Technical Editor, Modern Packaging, 575 Madison Ave., New York 22, N. Y. Your name or other identification will not appear with any published answer.

Test for extrusion coatings

Q: Our laboratory is developing a protective barrier material based on extrusion-coated resins on various base webs. Each of these materials will be made in several grades for different product requirements. When we test samples made with thin resin coatings, we are not sure if the variable results are due to minute holes in the coating or result from irregularities in the coating thickness. Is there any rapid and positive test that will show what is happening to cause these variations in the thinner resin coatings?

A: The test you should make is one that will show both the continuity of the resin film and also small variations in the coating thickness. The best test for this purpose is based upon the use of a strong dye solution in a liquid that will wet, but not dissolve the resin. Two commonly used test solutions of this type are kerosene or turpentine carrying an oil-soluble red dye. The test is performed by quickly covering an area of the coating, using a brush or swab well filled with the red solution. Care must be taken not to allow the solution to contact the base web. The dye solution should be allowed to remain on the surface about a minute and then wiped clean with a soft cloth. Where there are any pinholes in the coating or intruding fibres from a base paper, the red dye will make stain spots or show

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red fibres under magnification. If these do not show or if the base web is non-absorptive to the dve, then the solution should be allowed to remain in longer contact with the resin so that the coating will absorb the red dye. When the excess solution is wiped off, the variations in the resin thickness can be seen by the variations in the red color. The use of this technique, together with the selection of suitable wetting and absorbing solutions, will give you a rapid and reliable test to determine what is causing the variable results you have noted from the use of thin resinous coatings.

Polyethylene resins for bags

Q: We have been testing many kinds of polyethylene films for bag uses. Our test consists of dropping a sample bag, containing dry sand in place of a product, from a height of 2 ft. Some of the bags show no breakage of the film, but slight bulging near the bottom. Other bags show splitting of the film. Why do these different types of polyethylene film show such wide differences in these drop tests?

A: Various polyethylene resins have distinct differences in their molecular structure. The lower-density resins made by the high-pressure process have considerable branching and produce films that are soft. vet have high impact resistance. The effect of the branched molecule is also shown in good tear resistance both along and across the film web. Polyethylene resins of higher density, made by the low-pressure process, have little or no branching of the molecules. These resins make films that are relatively stiff, but have low impact resistance. The effect of the unbranched molecules is also shown in the low tear values along the film web in comparison with the high tear values across the web. In order for you to obtain better results in your drop tests, your bags should be constructed only of films made from lower-density polyethylene resins.

Testing caps for moisture loss

Q: We are redesigning the package for one of our products, a hand-cleaning emulsion. The glass jar will be a wide-mouth type and the cap is to be a molded phenolic plastic type. We would like to reduce the cost of the closure by using a narrow plastic strip in the cap. This cap design makes a good liquid seal, but we do not know if the moisture loss will be low enough to protect the product against spoilage. How can we test the moisture loss of this cap and others we are also considering?

A: Phenolic or other thermosetting resins used for molded bottle caps are not effective moisture barriers. These resins make excellent glass-container closures for many products when used with suitable cap liners. In your case, the cap would have a relatively large area with no liner. The result would be a serious loss of moisture from the product. Since the product is an emulsion, this moisture loss would cause the emulsion to separate, with resulting discoloration and loss of effectiveness in use.

You are advised to use an inserted liner that covers the entire top surface of the cap. There are many such liners that are highly moisture proof and also would be compatible with your product. A glass container complete with closure can be tested for moisture gain or loss in the laboratory. Sample filled containers are weighed to 1/10 of a gram and then placed in a storage cabinet at 100 deg. F. and relative humidity not exceeding 20%. Repeated weighings made at weekly intervals will show the moisture loss of different types of closures and also the effect of this loss on the appearance and performance of your product.

BANDS for sales-conscious glass packers



BANDS FASTEN RE-USE TOP TO VACUUM-SEALED CONTAINER

To provide consumers with an added incentive to buy, many manufacturers are packaging their products in attractive reuse containers such as decanters and apothecary-type jars.

Here's how one manufacturer . . . the American Syrup and Preserving Co. of Nashville, Tennessee . . . capitalized on this current trend and solved a difficult packaging problem at the same time. The problem was how to vacuum pack their "delited" chunky damson preserves in an apothecary-type jar. The glass stopper of the jar would not hold a vacuum. The solution? . . . Use a regular vacuum cap with a strong, transparent "Cel-O-Seal" cellulose band to hold the glass stopper firmly and safely in place atop the cap, until the package is opened. On display, the package for "delited" preserves is neat, attractive and appealing.

The "delited" package is another example of how versatile high-quality "Cel-O-Seal" bands helped solve a packaging problem and increased the product's point-of-purchase impact . . . for only a fraction of a cent per unit. If you have a closure or labeling problem, "Cel-O-Seal" bands may be the solution . . . find out, contact us today!

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CELLULOSE BANDS



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"Cel-O-Seal" Bands are used to solve an attachment problem

The Tennessee Valley Chemical Corporation of New Rochelle, New York, effectively uses a "Cel-O-Seal" cellulose band to attach a replacement wick to their TEVVY room deodorant refill package.

This use of bands has enabled Tennessee Valley to economically attach and promote the extra wick at the point of sale. The bands dry down to form a snug fitting seal that completely covers the wick. Tampering and removal of the attachment is also deterred.

If you are planning to attach



a sample or premium to your package, it will pay you to investigate the many advantages of high-quality "Cel-O-Seal" bands.

How your package can promote major sales points!

In addition to preventing lid back-off and tampering, the Halsey Drug Co. has found that "Cel-O-Seal" bands also play an important role in building retailer and consumer acceptance for its line of drug products.

The company uses the extra labeling space provided by the bands to highlight the purity and high quality of their products. Printed in blue, the band also repeats the well-known Blue Cross emblem for better brand recognition and family



resemblance of Blue Cross packages.

The decorative and protective advantages of "Cel-O-Seal" bands can make a similar contribution to your packages.

FREE PACKING SERVICE: See how "Cel-O-Seal" Bands can help your packaging program. Send us a labeled container. Our packaging specialists will band it, make recommendations, return it for your inspection. No charge, no obligation. Write: E. I. du Pont de Nemours & Co. (Inc.), "Cel-O-Seal" Bands (A), Wilmington 98, Del. "Cel-O-Seal" bands are also sold by Armstrong Cork Co., Lancaster, Pa.



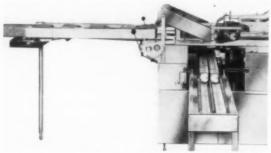
Equipment and materials

Sulfite-polyethylene bread wrapper

"Mara-Poly" is the name given by Marathon to its new sulfite-polyethylene bread wrapper, which is claimed to offer increased protection of the flavor and freshness of wrapped bread. The inner coating is tinted polyethylene extruded to the base sheet. According to the supplier, this coating affords a barrier to air and moisture, adds strength and opacity to the finished wrapper and withstands the high temperatures of wrapping hot bread without becoming affected by condensation or humidity. The wrapper's "Glamakote" finish, the company claims, is soft and pleasant to the touch, yet remains strong and durable under handling. The bread wrapper reportedly can be handled on existing wrapping machinery without modification. Marathon, Div. American Can Co., Menasha, Wis.

Ice-cream accumulator and bundler

Hayssen is introducing its Model 100-1 automatic ice-cream accumulating and bundling machine. Claimed to operate at speeds up to 2.100 gallon packages per hour, the unit is designed for small, medium or large-size plants. The machine



takes ice-cream cartons (pints, quarts or half gallons) directly from the filling machine, collects them into predetermined groups—usually eight pints or two half gallons—and overwraps them in a glue-sealing kraft paper. The wrapped packages then are ejected from the machine and conveyed into the hardening room. Accumulating, wrapping and ejection operations are completely automatic, the company points out. Other cited features of the machine are waterproof wiring, protective coverings, stainless-steel paneling, automatic lubrication system and a ball-bearing cam shaft, with taper-locked cams. Hayssen M/g. Co., Sheboygan, Wis.

50-lb. multiwall bag with side handles

Through the application of a double side handle, loaded 50-lb. multiwall bags now are "as easy to carry as a suitcase," reports Hudson Pulp & Paper. The side handle, which is securely applied via a patented method, is capable of supporting loads of up to 300 lbs., the company says. The customer convenience afforded by the carry handle suggests a wider market for 50-lb. packages of fertilizer, feed and other products normally marketed in bulk quantities. Descriptive literature on the Hudson Side Handle Bag is available without charge from the supplier. Hudson Pulp & Paper Corp., Multiwall Dept., 477 Madison Ave., New York 22.

Shrinkable saran packaging film

Saran Wrap-S, a shrinkable transparent film for packaging fresh-frozen poultry, fish, cured and processed meats and cheeses, will be made commercially available by Dobeckmun early next year. Limited quantities are available now. The outstanding cited characteristics of the new high-shrink film are low-temperature flexibility and greatly improved transparency. According to the supplier, packagers using the material will be able to form transparent, airtight, moistureproof packages that

will permit perishable foods to be stored at lower temperatures and for longer periods without product damage. In the packaging operation, the product is placed in the shrinkable bag or tube, a vacuum is drawn and the package is clip sealed. The filled package then is briefly exposed to heat from steam, hot air or hot water. This, the company points out, shrinks the film tightly around the product to form a skin-tight package that is both tough and transparent. The film reportedly can be handled on existing shrink-packaging equipment. The Dobeckmun Co., Div. The Dow Chemical Co., 3301 Monroe Ave., Cleveland 13.

Heavy-duty electromagnetic feeders

Syntron reports that its new line of heavy-duty electromagnetic feeders is specifically designed for high-capacity feeding where installation space is limited. Each of the feeders combines two standard electromagnetic-drive units which, the supplier says, provide ample power to convey heavy materials swiftly through an extra-long trough. The units available offer feeding capacities ranging from 25 to 1,000 tons per hour in dry materials of 100 lbs, per cubic foot. Syntron Co., Homer City, Pa.

High-speed tablet and capsule counter

Burnet has added a new tablet and capsule counter to its Triumph line of electronic counting machines. The company says its new unit incorporates several features that assure complete accuracy at high speeds. Four models are available. The Burnet Co., Packaging Equipment Div., Paramus, N.J.

Portable printer for shipping cartons

A manually operated machine that imprints product and packager data on the ends of shipping containers is offered by Rotary Imprinter. The portable unit can print copy legends up to 9 in. wide by 6 in. high and can accommodate a wide range of shipping-carton sizes, the supplier says. Rubber type and liquid inks in a variety of colors are available from the company. Rotary Imprinter, Inc., Hillside, N. J.

Gallon-a-stroke viscous filler

A sanitary two-line filling machine that reportedly can fill 30 to 50 gal, per minute of such viscous or semi-solid products

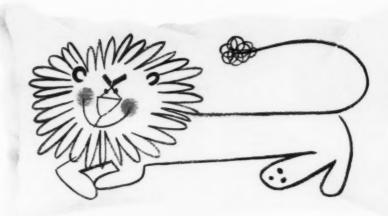


as mayonnaise, mustard and French dressing has been introduced by Filler Machine Co. Called the Geyer Model G59, it fills metal or glass containers at up to 1 gal. per stroke, using the bottom-up

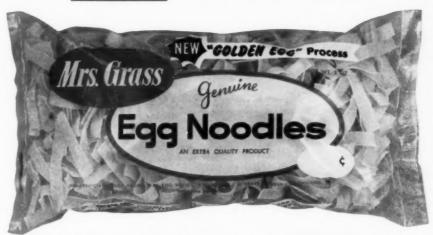
filling method to eliminate air pockets. Among the cited advantages of the stainless-steel unit are: a no-jar, no-fill control; an adjustable upright pre-filling blower and cleaner; a conveyor at the discharge end for fast removal of filled containers; a variable-speed drive, and a totally enclosed motor. The Filler Machine Co., Inc., 10 Penn Ave., Philadelphia 11.

Three-ply greaseproof bag paper

Designed for use by packagers of cookies, cake mixes, coffee and other products is Riegel Paper's new three-ply Triplex glassine paper for bag manufacturing. The three-ply structure of the paper permits converters to make "semi-rigid" bags that will stand upright on store shelves without sagging or buckling, the company claims. The greaseproof paper also is said to pre-



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> Mr. A. I. Grass, President I. J. Grass Noodle Co., Inc., Chicago, Ill.

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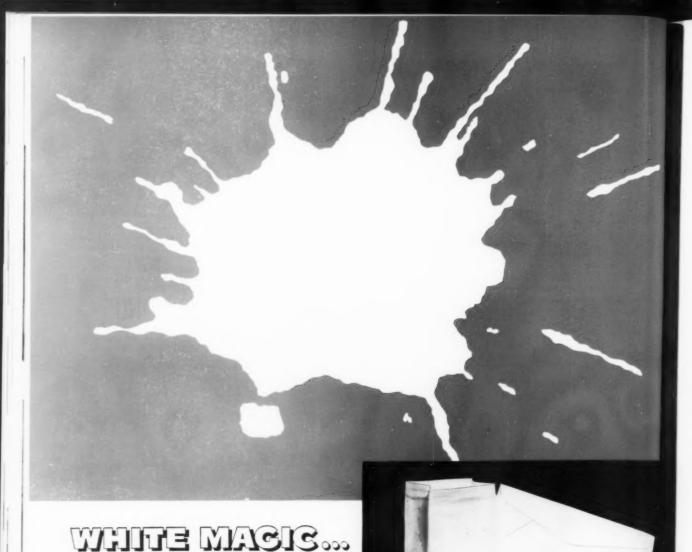
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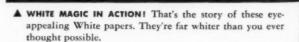
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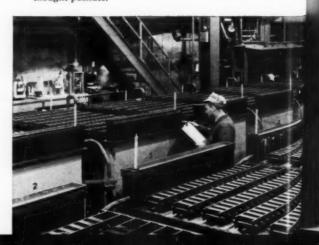
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Equipment and materials

vent wicking of shortening through seams, creases or folds. Other cited features of the paper are: an excellent white printing surface, superior strength, adaptability to high-speed automatic bag-making equipment and low water-vapor transmission rate. Riegel Paper Corp., 260 Madison Ave., New York 16.

Ultrasonic welding of foil rolls

Its new ultrasonic welding process makes possible complete, uninterrupted end-to-end use of aluminum-foil rolls, says Republic Foil & Metal Mills. (Another packaging-material supplier recently introduced a hand-operated ultrasonic welder for high-speed, airtight sealing of aluminum-foil packages. See Modern Packaging, July, 1958, p. 172.) Bonding foil rolls by ultrasonics, the company says, gives converters and printers perfect, nearly invisible seams for continuous web runthroughs. No adhesive or tapes are used in the process. The joining method, reported to eliminate down time from jam-ups, splice failure and foil waste, is claimed to provide strong, airtight welds of foil gauges as light as 0.0003 in. at no extra cost. Republic Foil & Metal Mills, Inc., Danbury, Conn.

Compact portable liquid filler

Filling speeds of up to 30 qts, per minute are claimed by Perl Machine for its manually operated, six-valve Perl Portable filling machine. Available in models for gravity or vacuum filling, or a combination of both, the lightweight, compact unit (25 by 16 in.) is designed for production runs as well as trial runs. A slight adjustment permits the machine to fill 1-gal., as well as quart-size, jugs. All valves and contact parts are made of stainless steel. Perl Machine Mfg. Co., Inc., 68 Jay St., Brooklyn 1.

Snap caps for linear polyethylene jars

Lermer Plastics has added a snap-cap series to its recently introduced line of "Poly-Opal" linear polyethylene jars. (See Modern Packaging, June, 1958, p. 144.) According to the supplier, manufacturers now have a choice of snap-on or screw-on closures for the milk-white containers, which are designed for packaging cosmetic creams, ointments, salves and similar products. The jars are available in five sizes, ranging from ½ to 4 oz. Lermer Plastics, Inc., Garwood, N.J.

Twin-weigher bagging scale

Thayer Scale's new Model 2N18CC bagging scale is an automatic duplex filling unit consisting of two net-weigher scales discharging into a common hopper. According to the supplier, the unit offers high packaging speeds and pinpoint accuracy. A control panel gives the operator a continual view of the scale's operational cycle, Material to be packaged is fed alternately into each of the machine's two weigh hoppers. As one is being filled and weighed, the other discharges its contents into the package. The unit can be set for 25 to 30 dumps per minute for package capacities of 25 to 100 lbs. Thayer Scale & Engineering Corp., Pembroke, Mass.

New rotary cutter

Hobbs Mfg.'s new rotary cutter can cut from rolls or in synchronization with in-process work. Available with or without a slitting device for longitudinal cutting, the unit is offered in widths ranging from 24 to 60 in. Pieces from 2 to 60 in. long can be cut by the new machine, which also is claimed to provide infinitely variable cut-off lengths at speeds of up to 50 cuts per minute. Hobbs Mfg. Co., Worcester, Mass.

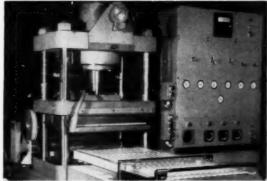
Economical cellophane for bakery packaging

A nitrocellulose-coated bakery cellophane that is claimed to offer better appearance than the conventional bread-wrapper type at no increase in cost is available from Du Pont, Designation

nated MSD-60, the film has a yield of 21,000 sq. in. per pound. It is reported to possess excellent machinability and to print with no difficulty. According to the company, the film offers adequate protection and good appearance when used for packaging other bakery products than bread, sugesting its potential as a multi-purpose wrap. The supplier points out that the film also is in commercial use as the inner wall of double-wall potato-chip bags and as a protective overwrap on cartons used for packaging lightweight products. E. I. du Pont de Nemours & Co., Inc., Wilmington 98, Del.

Fast, low-cost pressure forming

Auto-Vac's Model 2428 Pressure-Vac machine is claimed to offer high-speed, low-cost, precision-production forming of oriented polystyrene, linear polyethylene, polyester, nylon and other plastic materials into such food containers as portion packages, airtight ice-cream and potato-salad containers and transparent snap-on cup lids. According to the supplier, the new



unit also opens the way to visual packaging of foods that can be refrigerated, then cooked, in the original container. Using a force of 60 tons, the machine forms 28 sq. ft. of molded plastic per minute to exceptionally close tolerances with high detail, the supplier claims, Materials from ½-10 250-mil thickness can be accommodated. Shown are sheets of formed pockets, for holding individual food or condiment servings, being pressure formed from 21-in. rolls of 10-mil polystyrene at the rate of 600 units per minute. Cost of this operation, the company says, is \$1.45 per thousand pocket units. According to the supplier, forming cycles are more than 200% faster than normal, with a heating cycle of one second for 10-mil material. Auto-Vac Co., Div. National Tool Co., Bridge;port, Conn.

Improved in-fold gluer

High-speed production of folding cartons and an increased size range are among the advantages cited by Staude for its MD Master in-fold gluer. The unit can accommodate blanks ranging from 4 by 6 \% in. to 28 by 40 in. Built-in improvements reduce setting up and gluing time as much as 25%, the supplier says. Other features, such as anti-backlash gearing, modified side guides, anti-friction bearings and flange couplings contribute to finer adjustments, more accurate product control, longer machine wear and less maintenance, says the supplier. E. G. Staude Mfg. Co., 2675 University Ave., St. Paul 14.

Laminating polymer adhesive

A polymer-based adhesive called "A-916-B" is being offered to packagers as a lamining agent by B. F. Goodrich. The virtually colorless, transparent, pressure-sensitive material is reported to bond many types of film (including polyester, cellophane, cellulose acetate, polyethylene and polyvinyl chloride) to all kinds of metals as well as to paper, glass, wood and other materials. No heat or special surface treatment is needed to activate the adhesive, reports the company. B. F. Goodrich Industrial Products Co., Akron, O.

Units for salvaging waste corrugated

Devices for converting waste corrugated cartons into re-usable packaging material have been introduced by two companies. The ComptoPak Cutter and Crimper, offered by Comptometer Corp., converts salvage paperboard and corrugated cartons into sheets of varying sizes, then processes the sheets into strong,

Equipment and materials

pliable, crimped, corrugated wrapping and packing material. The crimped material is suggested for use as inner or outer wrapping, in carton lining or as cushioning for fragile items. A similar unit, available from Corri-Cut, cuts and trims used corrugated cartons into blanks, then scores the blanks to any desired size for interior end, side and corner pads, braces, dividers, fillers and separators. Called the Corri-Cutter, it also makes blanks for one- and two-piece folders, multiwraps and other exterior packaging. Comptometer Corp., ComptoPak Div., 1735 N. Paulina St., Chicago 22, and Corri-Cut, Inc., 1 N. LaSalle St., Chicago.

Jam-proof rotary parts feeder

Use of rollers rather than slide tracks to feed the product makes its new Hoppermatic Model R rotary parts feeder almost com-



pletely jam. proof, claims U. Engineering. The new unit. combining a cast drum (with universal pick-up pockets) with driven rollers, is reported to feed up to 1,000 small parts per minute. Items that can be accommodated include nails, screws,

rivets, tablets, capsules, candies and many other regular or irregularly shaped parts. Sticking or jamming of sharp, pointed items—such as nails and screws—in the discharge track is prevented by the constant motion of the self-freeing rollers, the supplier says. Change-over from one size of part to another is claimed to require less than five minutes, U, S. Engineering Co., 40-24 22 St., Long Island City 1, N.Y.

Color-printed polyethylene bottles

Continental Can reports that its gallon-size polyethylene bottles now are available with the packager's message silk-screen printed in one color, According to the company, the lightweight, inert and low-cost plastic bottle already is in commercial use as the container for a variety of food and chemical products, including vanilla and cherry extracts, acids, bleaches and disinfectants, Continental Can Co., Plastic Container Div., 29:30 N. Ashland Ave., Chicago 13.

Multiwall-bag slitter and dumper

Wiretyer is producing a bag-slitter machine that opens and dumps filled multiwall bags at the rate of twenty 100-lb. bags per minute. The unit offers high labor savings for large users of multiwall bags, such as bakers, the company says. Bags to be opened are conveyed up an incline by a wire-mesh conveyor, where they pass under and are sliced in half by a rotating disk knife. At this point, the bag halves are impaled automatically on elongated spikes, while the bag's contents are dumped into a hopper. After the dumping operation, the bag halves are transported to the rear of the machine, where they are ejected. Wiretyer Corp., East Paterson, NJ.

Two new weighing machines

Two new weighing machines have been introduced by Richardson Scale. The company's Holm Model SS weighing and filling machine is an automatic bench model that is claimed to provide up to 20 accurate weighings per minute of free-flowing, semi-free- or non-free-flowing materials. Maximum filling capacity of the unit is 12½ lbs. Mounted on a steel base,

it consists of an angle-iron frame, top-feed hopper, motorized agitating feeder, feed-regulator plate, revolving three-compartment weigh hopper, weigh beam, adjustable balance, discharge spout and motor with an eccentric cam. Also available is the Model MSM bulk weighing scale for weighing and recording dry, granular or powdery materials. The 50-lb-capacity unit is equipped with a totalizing counter for exact recording of all operations. Both scale and counter are completely enclosed for maximum protection, Richardson Scale Co., Clitton, N.J.

Easy-open cellophane bread wrap

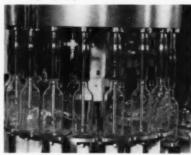
Du Pont is offering its contribution to the current trend toward making bread wrappers easier to open. (See Modern Packaging, Aug., 1958, p. 136, and Sept., 1958, p. 164.) This company's convenience feature—reported to require only minor wrapping-machine modifications—is achieved using regular end labels. In the packaging process, a %-in. strip across the top of the end label is not sealed to the cellophane wrapper. The customer grasps this tab and pulls it downward, stripping the label cleanly from the wrapper without tearing. The bread wrapper can be resealed to protect the remaining contents by twisting the open cellophane end, the company points out. Necessary machine modifications are explained in a pamphlet, "New Way to Sell More Bread," which is available without cost by writing the company. E. I. du Pont de Nemours & Co., Inc., Film Dept., Wilmington 98, Del.

Economical, versatile thermoforming

Ned L. Roberts, Inc. reports that its Type MM vacuum-forming machines can be used for an economical and versatile thermoformed-packaging process called "Poly-tite." According to the supplier, the process can be used in a wide variety of packaging applications, ranging from costly fragile industrial parts to mass-produced consumer products. In operation, a pre-cut corrugated board loaded with the item or items to be packaged is placed on the vacuum-forming-machine's vacuum platen. A sheet of polyethylene is inserted in a holding drape frame over the platen. After the film is electrically heated and softened, the frame is lowered over the board and vacuum is applied from beneath the platen. This operation bonds the film securely to the board. A full packaging cycle takes about 40 seconds, the supplier claims, Mounting boards of up to 24 by 30 in. can be handled. Ned L. Roberts, Inc., Van Nuys, Calif.

Foamless filling of liquids

Horix Mfg.'s Model HB-BS-9 filling machine is designed for use in filling liquid products that have a tendency to foam during



the filling operation, or that require a minimum of aeration. The "Under Surface Filler," as it is called, uses a double-action valve in such a way that the filling tube is gradually withdrawn from the container at an automatically con-

trolled rate that assures the entering liquid will always be just below the surface of the liquid already in the container. This operation, the company points out, offers positive control against foaming. Shown are glass bottles under the filling head, with filling tubes in various positions to illustrate the device's "no-foam" filling principle. The unit also can be used as a gravity filler. Horix Mfg. Co., Corliss Sta., Pittsburgh 4,

Automatic selection of packaged goods

Atronic Products has introduced the Model 410 Carton Selector, a device that is claimed to count and sort—by means of a five-bar printed code—any type of case, box or carton (up to 30 different items) as they move along a conveyor belt. According to the company, the transistorized unit is designed for operations where carton selection cannot be made on the basis of

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Equipment and materials

size and where multi-selector equipment is unnecessary. Selector switches on the unit are set to recognize any one of the five vertical code markings (preprinted on the cartons) as the cartons pass it at conveyor speeds of up to 180 ft. per minute. The code can be printed on the cartons at the same time as other printing is done, without special inks. Atronic Products, Inc., Bala Cynwyd, Pa.

Slim, impermeable nylon aerosol container



nylon aerosol container claimed to be impermeable to propellants is being offered to packagers by National Plastic Products, Manufactured of Du Pont's nylon resin, the almost shatterproof aerosol container uses standard valve assemblies and closures, the supplier points out. The modern slim appearance of the package, along with its impermeability and resistance to breakage, suggests its application as a container for colognes, lotions, hair lacquers, anti-perspirants and other cosmetic products, according to the company.

The container reportedly can be filled on standard equipment. It can be imprinted or labeled with the packager's message and is available in a choice of two colors. Additional data can be obtained from the supplier. The National Plastic Products Co., Odenton, Md.

Electronic stock-roll unwind unit

An electronically controlled, completely automatic stock-roll unwind unit has been developed by New Era. Claimed to minimize down time and speed production, the Electronic Unwind handles rolls up to 48 in. in diameter, with maximum feedlength core of 3 in. at feed lengths up to 20 in. Cited benefits include faster roll change due to quicker, easier threading of the web; no run-away or catch-up loops; no manual operation; conveniently located controls, and built-in safety devices. Details of the new unwind unit are given in a bulletin available from the supplier. New Era Mfg. Co., Paterson, N.J.

Roll-method feeder for small parts

A packaged-roll orientator, claimed to align 100% of the parts fed, regardless of their position at discharge, has been introduced by Automation Devices. Designed as an aid to the feeding of headed or slightly tapered parts, the unit also can be used to inspect parts by discarding or dropping undersized parts. It is equipped with a photo-electronic control so that feeder supply remains constant without overloading, the company says. The device reportedly can be adjusted to parts of various sizes and to varied delivery rates, Automation Devices, Inc., Erie, Pa.

Combination slitter and doctor machine

A combination slitter and doctor machine, said to solve reject problems in converting plants handling paper, film or foil, is available from Stanford Engineering. The company's Model 182 is engineered for high-speed rewinding and multiple slitting operations. The unit cuts costs on narrow-width rewind and multiple slitting, and saves waste by converting rejected telescoped, defective and uneven rolls into salable stock, the com-

pany claims. Its rewind shafts accommodate web rolls up to 18 in, in diameter and 30 in, wide, Variable-speed control on the open-end unit permits slitting speeds of up to 1,000 ft. per minute. Stanford Engineering Co., Salem, Ill.

Indexer for irregular parts

Jordan Tool's portable indexing machine automatically picks up a bag, opens it for filling, then closes and heat seals it in one continuous motion. Speeds of up to 30 bags per minute are claimed for the Index-O-Matic machine, which can accommodate polyethylene, cellophane, rubber hydrochloride film, kraft or parchment bags up to 10 in. wide and 18 in. long. The machine can handle a wide variety of irregularly shaped items, ranging from hardware parts to bakery products, according to the manufacturer. Jordan Tool & Machine Corp., 512 S. Fifth St., Milwaukee 4.

5-gal. amber polyethylene container

Clayton Chemical is marketing a 5-gal. amber polyethylene container, designed for such applications as storing photographic and other light-sensitive solutions. The unbreakable container provides light protection while allowing users to determine the level of contents, the company points out. Also available are amber containers in 8-, 16-, 24- and 32-oz. and 1-gal. sizes. Clayton Chemical Co., Evanston, Ill.

Polyethylene-to-fabric adhesive

An adhesive that is claimed to make it possible to combine the qualities of polyethylene with the strength of fabric and burlap is available from Java Latex. Called Polytex, the adhesive reportedly effects a strong, permanent bond of the materials to be adhered. Its use is suggested by the manufacturer in making bags for feeds, fertilizers and other items. Java Latex & Chemical Corp., 1713 W. Farms Rd., New York 60.

New meat-packaging machinery

Among the new packaging machinery available from Miller & Miller is an automatic line that is claimed to turn out 60 completely banded, closed, wrapped, sealed and code-dated packages of wieners per minute. The unit's automatic collaring



machine shown is adjustable to packaging of 8-, 12- or 16-oz sizes, the company points out. Also available from the supplier are an automatic labeling machine and a chipped-beef packaging machine. The latter unit, in automatic operation, slices the beef, flushes the bag with nitrogen, fills the bag and conveys it to a scale for check weighing. Miller & Miller, Inc., 136 Marietta St., N.W., Atlanta 1.

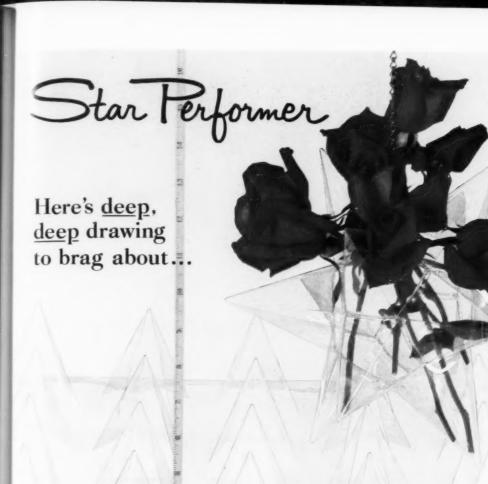
Gummed-label moisteners

Two new units have been added to Seal-O-Matic's line of wide label moisteners—a 4½-in, wide and a 6-in, wide Label Master. Cited features of the new moisteners are rust-resistant water boxes, stainless-steel covers and pure bristle brushes. Seal-O-Matic Dispenser Corp., 169 Murray St., Newark 5.

Vinyl heat-seal coating

A vinyl heat-seal coating that is claimed to provide exceptionally good heat-seal and chemical-resistance properties to aluminum foil and paper has been introduced by Gordon Lacey Chemical Products. Called H 197 W, it can be sealed with coated side to coated side, or coated side to uncoated side. The

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supplier says it can also be sealed to vinyl or saran film, as well as to cloth, moistureproof cellophane and polyester film. Its resistance to a wide variety of chemicals and to greases, oils and fats makes the non-toxic material applicable in the packaging of foods, drugs, soaps and chemical compounds, according to the company. Gordon Lacey Chemical Products Co., 75-02 48 St., Maspeth, N.Y.

Narrow pressure-sensitive tapes

Pressure-sensitive tapes in widths as narrow as 1/64 in., with reported tolerances of plus or minus 0.005 in., are available from W. H. Brady Co. Offered in roll form, the tapes are suggested for such packaging applications as binding small items to display cards, or holding two or more items for combination deals. Among the materials used for the tape backing are vinyl, acetate, polyester, aluminum foil, paper, and glass and cotton cloth. The tapes are available in a variety of colors. W. H. Brady Co., 727 W. Glendale Ave., Milwaukee 9.

Automatic tape sealing of lightweight cases

Crushproof automatic tape sealing of corrugated shipping cases filled with fragile, lightweight packaged products is one of the cited advantages of General Corrugated Machinery's Model TS



20W. The unit is shown here in operation at the Berwick, Pa., plant of Wise Potato Chip Co. Now operating at a rated speed of 28 cases per minute, developments are under way to increase speeds to 50 cases per minute, the company says. The 18-ft. long machine receives filled cases from a gravity conveyor, indexes them, folds all top flaps and applies gummed tape to seal the cases. According to the supplier, crushless taping is accomplished by a rubber-roller conveyor and tape ender, which apply the tape securely but gently. For easy carton opening, a tear-band attachment on the machine applies a 1/8-in. band of string along the center of the glue line. A tab provided during the sealing operation simplifies the case-opening procedure. General Corrugated Machinery Co., Inc., Palisades Park, N.J.

Unit prints ink cartridges

Filled polyethylene ink cartridges for pen refills can be fed, printed and ejected automatically at speeds of up to 180 per minute on its new Model 20A machine, says Markem. The cartridges (¼ in. in diameter and 2¼ in. long) are fed into the machine from a magazine with a capacity of 3,000 pieces. After being imprinted by molded-rubber printing plates and specialty inks, the cartridges are ejected and heat dryed on the unit's conveyor. Markem Machine Co., Keene, N.H.

Statistical weight control

Scale Specialties & Systems is offering packagers its Datamatic weight calculator. Designed to be set up adjacent to the filler line, the device provides a visual check, in graph form, of filling weights. The unit reportedly can be used with any size of package filled by commercial filling machines. It graphs weight variations from the norm line on a 6-in.-wide strip chart, for a complete record. Scale Specialties & Systems, Roseland, NJ.

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Plants and people

William M. Cameron has been named exec. v.p. for glass and plastics operations by Continental Can Co.,







Cameron

York. He succeeds Lawrence Wilkinson, who has been promoted to exec. v.p. in charge of finance and adminis-



tration. Mr. Cameron is succeeded as v.p. of Con-Can's Central Metal Div. by E. L. Hazard. On Jan. 1. Charles B. Stauffacher will take the post of exec, v.p. of the Robert Gair Paper Products Group, succeeding Norman F. Greenway, retiring. Mr. Stauffacher now is serving

as financial v.p. of the company and will hold that post until year's end.

Charles E. Frohman has retired as pres. of the Hinde & Dauch Div., West Virginia Pulp & Paper Co., Sandusky, O. L. Frank Thompson has been named mgr. of the div., succeeding Mr. Frohman, who will remain as consultant to H&D's exec. committee. Mr. Thompson will have full responsibility for direction of the division. Robert L. Bentley becomes mgr. of Westvaco's Kraft Div.

Richard L. Siegel has been named pres. of Gardner Container Co., sub. Diamond Gardner Corp., Middletown, O. He succeeds Melvin E. Barthen, who resigned in September. Mr. Siegel will also continue as gen. mgr. of The Gardner Div.

Russell B. Wilhelm has succeeded Kevin Hepp as mgr. of processed food sales at Owens-Illinois Glass Co., Toledo, O. He was for-



merly mgr. of dairy and instant-products sales in the Glass Container Div. Mr. Hepp is now mgr. of the Div.'s beverage-industries sales. Mr. Wilhelm will continue to be responsible for instant-product sales. Sam Edwards, mgr. of prepared-

food sales, is also handling specialty glass-container sales. Robert E. Davis has been named mgr, of dairy sales.

Hopple Plastics, Inc., is the name of a new company set up to manufacture vacuum-formed plastic products for use in packaging. The new company, which is closely allied with The Cin-Made

Corp., Cincinnati, reports that it will specialize in blister packaging. Company address is 800 E. Ross Ave., Cincinnati 17. Principals of the firm are: John S. Hopple, pres.; P. W. Brittain, v.p.; John S. Minor, v.p., and E. A. Sembach, secy.-treas. Mr. Hopple is also pres. of Cin-Made. Mr. Brittain is pres. of Brittain Products Co., maker of injection-molded plastic products. Mr. Minor is a mfrs. rep. for National Con-tainer Corp. Miss Sembach is v.p. and gen, mgr. of Cin-Made.

Print-A-Tube Co., Rochelle Park, N.J., reports that it has made several executive promotions as part of its expanded operations in flexographic printing and polyethylene-coated films. Justin Field, formerly gen, mgr. of the company's Skin Pak Machinery Co. sub., becomes asst, to the pres, of the parent company. He is succeeded by Ralph I. Perault, former sales mgr. of Brown Bag Filling Machine Co. Alexander B. Beal has been named v.p. of production for Print-A-Tube.

Robert F. Cox has succeeded Mark K. Dresden as pres. of A. H. Wirz, Inc.,



Dresden

Chester, Pa. Mr. Cox, who joined the company in 1942, had been v.p. in charge of production since 1954. After nearly 25 vears with Wirz, during

the last four of which he served as pres., Mr. Dresden has announced his resignation. Founded in 1836 to produce pharmaceutical supplies, the company manufactures collapsible metal tubes.

The Gummed Products Co., formerly a sub. of St. Regis Paper Co., New York, has been merged with the parent company and established as a separate div. to be known officially as The Gummed Products Co., Div. St. Regis Paper Co. There will be no change in personnel, and production and sales policies will remain unchanged.

Dr. William H. Schuette has been elected a v.p. of The Dow Chemical Co., Midland, Mich. He will continue as gen. mgr. of the company's Midland Div. Dr. Schuette joined Dow's chemical engineering laboratory in 1941 and was associated with the development of the company's Styrofoam and Styron.

Robert S. Solinsky, who has been active in the can-supplying industry for 50 years, has been named board chairman of National Can Corp., Chicago. He had been pres, since 1952. Mr. Solinsky joined American Can Co. in 1908, then moved to Continental Can Co. three years later. In 1936, when he was Central District sales mgr. of ConCan, he joined National Can as a v.p. He left the company in 1939 to form his own company, called Cans, Inc. The firm was merged into National Can in 1952 and Mr. Solinsky became pres. of the parent organization.

Mr. Solinsky also is a former (1946-48) pres. of the Can Mfrs. Institute and has been on its board or exec. com-

mittee for 15 years.



Clyde N. Kracht has been named mgr. of market research by Visking Co., Carbide Union Corp., Chicago. Formerly head of market research for Visking's Plastics Div., Mr. Kracht will supervise market-research activities for that div. as well as for the Food Casings Div. He has been with the company since 1934.

Samuel C. Wakefield has been elected sales v.p. and director of Quality Park Box Co., St. Paul. Mr. Wakefield was owner and pres. of Heywood Mfg. Co., Minneapolis set-up and folding-box manufacturer, before its recent acquisition by Quality Park.

The Super Whip Valve Co. is in full production at its new plant in Chicago. The company supplies foam and liquid valves, closures and engineering service for the pressure packaging of whipping cream, vegetable topping and shaving cream. In addition, it has installed a pilot laboratory for customer sample packaging using nitrogen propellant.

J. A. Dieter has been elected v.p. of engineering and development by R. A.



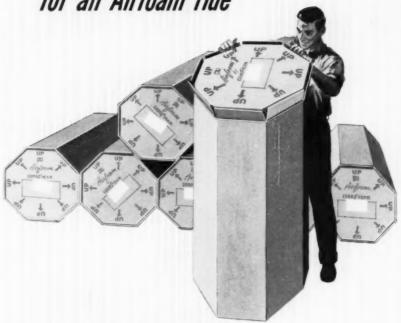
Minneman

Jones & Co., Cincinnati. He was formerly director of engineering and has been with the company since 1950. Edwin Minneman also has been elected a v.p.

and will be in charge of company sales. He has been with R. A. Jones for two years and was formerly director of sales. The company manufactures a line of automatic and semi-automatic packaging machinery.

Standard Packaging Corp., New York. has purchased the Basca Mfg. Co., Indianapolis. The new acquisition provides Standard with a line of aluminum-foil, plastic and paper-foil laminated closures which are sold to the dairy industry

Corrugated cushion for an Airfoam ride



This H & D corrugated drum makes rolls of Goodyear Airfoam easier to pack, more economical to ship. Flexible ends provide protection against compression and shock. Packaging problem? Better see H & D.



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Plants and people

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Harold R. Colwell has joined National Can Corp., Chicago, as mktg. admin. mgr. He will assist W. Howard Winters, mktg. mgr., in coordinating sales promotion, marketing research, sales forecasting, budgeting, advertising, public relations and product distribution. Mr.

Colwell comes to National from Vulcan Containers, Inc., where he was director of advtg. and market research.

New facilities for the production of polyvinyl acetate beads went on stream recently at the Illiopolis, Ill., plant of Borden Chemical Co., New York. This expansion, according to the company, is designed to meet the increasing demand for the commodity by makers of hot-melt adhesives, printing inks, decorative coatings, lacquers and can linings.

G. Findley Griffiths has been appointed exec. v.p.-commercial and Joseph H.





riffiths Myers

Myers, v.p.mktg., for Acme Steel, Co., Chicago. Mr. Griffiths will determine sales policies and will supervise the marketing and pricing of

products as well as handling customer relations. He has been with Acme since 1950 and, most recently, was v.p. of sales. Mr. Myers, formerly gen. supt., will coordinate marketing of Acme's sales divisions with company manufacturing, advertising, market research and product development. He joined the company in 1946.

Knox Glass, Inc., Knox, Pa., has opened a \$4,000,000 plant in Danielson, Conn. Designed to service packagers with production facilities in New England, the new plant is equipped to make bottles, jars and other types of glass containers ranging in capacity from 1 oz. to 1 gal., the company says.

James T. Sadler has been promoted to evec. v.p. of National Paper Boxes, Inc., Kansas City, Mo. S. Orr Davidson, Jr., succeeds him as v.p. For 20 years prior to 1948, Mr. Davidson served with National Paper Box Co., which merged

It's all in the family

If your products are in a family way, you can't do better than to fit them out in high quality, color-true WS package components.

- · Lead, Tin and Aluminum TUBES
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- Plastic Tips, Sifter Tops, All Standard FITMENTS

Talk over your requirements with your WS salesman, write direct, or phone collect to our nearest factory.

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DO SHOPPERS STOP WHEN THEY SEE YOUR PACKAGE?

Today, the label on your package in the marketplace is more important than ever! Is your label helping to draw attention to your product in the few seconds it takes the consumer to pass the shelf?

Oliver Roll Type, Heat Seal labels are colorful, attention-getting labels that stand out on the shelf and stand up under use.

Oliver offers "one-stop" service in handling your label requirements. Our artists will design a label or family of labels, in one, two, three or four colors. You are assured of the finest quality printing on latest-type printing equipment, either letterpress or gravure. Right adhesive to guarantee full sealing at minimum cost.



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If you want better imprinting at lower cost for bigger profits, the Rainbow Coder is your answer!

for special head and pressure arrangement assure sharp, clear quality controlled impressions in a wide color range — on any material or surface that will accept hot roll leaf imprinting. 250 impressions cost about one cent!

Wraps

Easy and economical to install, the Rainbow is synchronized with packaging machine speed it serves — and does not require an operator. No ink, no makeready, little maintenance.

For complete details, write today. New marking equipment catalog available on request. Dept. MP.



INDUSTRIAL MARKING EQUIPMENT 655 BERRIMAN ST. | company, inc. BROOKLYN 8, N.Y. | NI 9-3305

Plants and people

with Paper Boxes, Inc. last year to form the present company. Mr. Sadler has been with the company, which makes set-up and folding boxes, fibre cans and corrugated boxes, for more than nine years.

Robert W. Stirling has been named press of National Gravure Cylinders, Inc., Long Island City, N. Y. Earl F. Schneider has been elected v.p. and treas. He was formerly comptroller. Mr. Stirling was formerly with George M. Stone Co., Newark.



Barker

Stephen M. Barker has assumed the post of mgr, of market development for Continental Can Co., New York. He had been employed previously with both General Foods Corp. and R. T. French Co. in product-development and merchandising capacities. Mr. Barker will work with the

sales, research and new-product departments to develop market opportunities for ConCan's varied packaging products, the company says.

Kennedy Car Liner & Bag Co., Shelbyville, Ind., has appointed William N. Reimann as gen. sales mgr. Mr. Reimann is a member of the board of directors and has been with the paper, film and foil-converting company since 1934. He has been a sales rep., was at one time in charge of plastics production and also was mgr. of the plastics div. of Kennedy. In addition, he has acted as his company's delegate at various activities of the National Flexible Packaging Assn.

Stanley Field, who became deputy chairman of the company early this year, has now been appointed chairman of Venesta, Ltd., London, England. He



Field

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succeeds Henry Rutherford, who has been named honorary pres. in recognition of his 50 years with Venesta. Mr. Field has been a member of the board of directors since 1955 and was a director of Ekco Products of Chicago until January of this year, when he was made an of-

ficer of Venesta. Great Britain's largest producer of aluminum foil, Venesta is also a collapsible-tube manufacturer.

A marketing-service firm for the consumer-packaging field has been set up by H. Addison Campbell, who will also be pres, of the company. Named Campbell Packaging Co., it is located at 52 E. 19 St., New York 3. According to Mr. Campbell, the company will offer a creative package-development serv-

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a New J. D. CAHILL CO.

Boxboard Laminating Plant at:

Palisades Park, New Jersey

We are pleased to announce that a new and modern J. D. CAHILL CO. boxboard laminating plant has been opened at Palisades Park, New Jersey.

This addition to our Haverhill, Massachusetts and Buffalo, New York operations is another step in a program designed to provide excellent service to carton manufacturers in their requirements for top quality laminated and coated boxboards.

For 18 years, satisfied customers have taken advantage of our experience and modern facilities.

May we have the pleasure of working with you on your requirements?

J. D. Cahill Co. HAVERHILL. MASSACHUSETTS
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FOLDING CARTONS

CORRUGATED BOXES

SOLID FIBRE BOXES

SPECIALTY PAPERBOARDS

FIBRE WALL BOARDS

BOXES



PAPERBOARD PRODUCTS CO.

New types of Patapar® give you a REAL BARRIE against penetration of **GREASE, FATS, OILS**



As an inner protective barrier for multiwall bags . . . or wherever a grease-proof material is required, new types of Patapar Vegetable Parchment meet the most exacting requirements. These special grease-proof Patapars stop penetration. Oil will not spread on Patapar's surface. There is no grease "crawl".

Wet-strength, too

Permanent high wet-strength is another quality of the many different types of Patapar. And, made from pure cellulose, Patapar is odorless, non-toxic. It is furnished plain or colorfully printed.

If you would like to test Patapar for your product, write us telling your requirements. We'll send information and samples of the type we recommend for your purpose.

PARCHMENT

HI-WET-STRENGTH . GREASE . RESISTING

HEADQUARTERS FOR VEGETABLE PARCHMENT SINCE 1885



Plants and people

ice involving unusual package constructions in boxboard, plastics and paper, as well as other packaging services.

Marking completion of the gradual integration of staff functions of Butler Paper Products Co. into the set-up of Dairypak, Inc., the merged companies have assumed a new corporate name-Dairypak Butler, Inc., with headquarters in Cleveland. Internal organization of Dairypak Butler, owned jointly by the Diamond Gardner Corp. and Champion Paper & Fibre Co., will remain unchanged.

Kenneth M. Henry is now assoc. director of research in the General Research

> Dept. of Owens-Illinois Glass Co., Toledo, O. Robert T. Wallace has been pro-



moted to asst. research director in charge

of applied re-Wallace search in organics. He had been chief of plastics

development since 1956. Mr. Henry, who has been associated with O-I since 1919. will work with James W. Hackett, director of research.

Van B. Taliaferro has been appointed mktg. admin. mgr. by Oxford Paper Co., New York. Formerly Eastern sales mgr., he will be responsible for mktg. research, policies and programs, advertising, sales-promotion and related functions, C. Rickert Lewis has been named New England sales mgr. Kenneth V. Wolf becomes Atlantic sales mgr., to include coverage of Metropolitan New York. Chester N. Stupp has been appointed direct sales mgr.

As part of a program to increase overall efficiency, the Hazel-Atlas Glass Div., Continental Can Co., Wheeling. W. Va., is relocating several of its production facilities closer to major mar kets. Production capacity at the div.'s newest plant in Plainfield, Ill., will be doubled and a glass-container research and development center will be set up there. Both the company's Grafton, Va., plant and the older of its two glass plants at Zanesville, O., will be closed.

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American Viscose Corp., Philadelphia, has appointed William E. Coggins as supervisor of advertising for the Film Div. At present supervising publicity for company products, personnel and operations, his duties will now include Avisco cellophane advertising.

Crowell Carton Co., Marshall, Mich., a div. of St. Regis Paper Co., has completed an extensive expansion and new equipment program designed to give





SELLING THE PACKAGE IS AN IMPORTANT PART OF SELLING OUR NEW RAZOR"

dealer presentation says, this package, made with rigid, transparent Celanese Acetate, is the ultimate in packaging"—is exciting, eye-topealing, and modern—and it displays and ells razors. Celanese Acetate with its excellent ging characteristics, withstands heat, humidity and dryness in this application—retains its beauty and performs even under adverse conditions of shipping, long-storage, and display. And it's economical.

"that's why we chose this package ... made with Celanese acetate"

Package thermo-formed for ASR Products Corp. by Plaxall, Inc., L. I. C. 1, N. Y.

This "presentation case" is truly a worthy complement of the great new Gem Push-Button Razor . . . sparklingly transparent and beautifully displaying the razor in the plushest of settings.

For rigid transparent containers and covers of Celanese Acetate sheet are crystal-clear, accent the appeal of the merchandise inside, add eye-appeal and selling impact. Acetate enhances and glorifies while it protects, and it's tough, sturdy, and long-lived.

With a molded and flocked plastic base, and thermo-formed, heat-sealed cover of Celanese Acetate, this Gem package is produced at extremely high speeds. Thermo-formed acetate is adaptable to swift mass-production techniques, using fully automatic or semi-automatic machinery... required for fast-moving merchandise such as the new Gem razor. And in this case, the package is formed with two "faces," each of which is uniquely "dimpled" or contoured to the razor's shape; as the two acetate sides are rapidly and attractively heat-sealed together, their contours hold the razor rigidly in place.

If you are using, or can use, rigid transparent containers, contour covers, blisters, or point-of-sale displays, make sure they're made of eye-filling, sales-impelling Celanese Acetate.

Vacuum-formed



Celanese Corporation of America, Plastics Division
Dept. 108K, 744 Broad Street, Newark 2, N. J.
Canadian Affiliate: Canadian Chemical Company Limited, Montreal, Toronto, Vancouver.
Export Sales: Amcel Co, Inc., and Pan Amcel Co., Inc., 180 Madison Avenue, New York 16, N.Y.



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Send specification prints for quotation.

Pressure-Sensitives for Advertising and Labeling

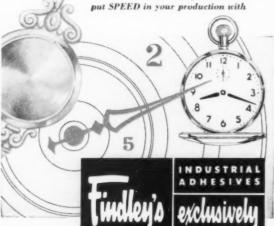
• 110-v, 60-cycle AC. Other power specifications to order.

7300 WEST WILSON AVE. . CHICAGO 31, ILL. PLANTS IN: CHICAGO, NEWARK, LOS ANGELES, AND TORONTO, CANADA

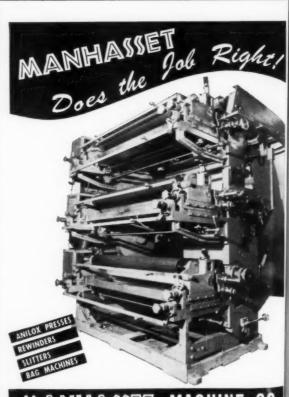
looking for ...

More speed, more production — more profits. Simple! High speed resin adhesives permit production at top machine speeds. What is your gluing operation? Package making and sealing, case sealing, glued lap, tear tape, tube winding, folding box, bag making? Prove to yourself how these high speed Findley resin adhesives can give you more speed and cut your production costs.

Let us show you how to ... put SPEED in your production with



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car

Plants and people

the company greater flexibility in making folding cartons and set-up boxes for consumer and industrial use. The company has been a volume producer of metal-edged cartons.

Basil Manousso has been appointed mgr. of the International Div. of Sinclair & Valentine Co., New York. Mr. Manousso, who has been with the company since 1950, had been in charge of S&V's Latin American section.

Design Dimensions, Inc., is a newly formed industrial-design company located at 1525 Eleanor Ave., Toledo. Harold S. Boutin is pres., Cecil G. Blank is exec. v.p. and Edward P. Stevens is secy.-treas. Robert J. Aul, F. M. Gustafson and James E. Jones are vice presidents.

A new plant for making corrugated containers will be opened in Kansas City, Kans., by Olin Mathieson Chemical Corp., New York. The new plant will contain a corrugating machine as well as finishing equipment for producing corrugated boxes in a wide range of sizes, weights and tests. According to OM, the machine will quadruple current production levels at its present Kansas City plant.

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ANADA

Standard Packaging Corp. has moved its executive offices to 200 E. 42 St., New York 17. The company's new telephone number is OXford 7-0110.

A 13,000-sq.-ft. data-processing center is being built at Edison, N.J., by American Can Co., New York. The building will have a special computing room constructed and designed to maintain accurate conditions of temperature and humidity, the company says.

Cleveland Container Co., Cleveland, has begun construction on a 27,500-sq.ft. plant in Dallas. The company makes fibre and composite containers.

Federal Paper Board Co., Bogota, N.J., has opened a folding-carton plant at Washington, Pa. The new plant consolidates the carton operations of two other company plants.

Gisholt Machine Co., Madison, Wis., has named Kruse Packaging Machinery, Chicago, as mfrs. rep. of its Sealamatic line of machines in the Great Lakes territory. Gisholt's Sealamatics apply cellulose neck bands to bottles.

St. Regis Paper Co., New York, reports that it has completed an expansion and modernization program at its multiwall-bag plant in Kansas City, Mo. Formerly equipped only to manufacture sewn multiwall bags, the plant now can produce pasted open-mouth and

Continued on page 180]





AGING

RHINELANDER Glassine



and greaseproof papers

Here are versatile papers that economically provide basic protection essential to good packaging... foods in wide variety, pharmaceuticals, and industrial products... from cereals to tea... bandages to piston rings.

For example, the nickel still buys a lot of candy bar... but the low retail price demands packaging calculated to the fraction of a cent. Rhinelander Glassines and Greaseproofs, widely used, provide efficient low-cost protection, attractiveness and merchandising appeal, with good printability and trouble-free operation in high-speed automatic packaging.

Inherent barrier properties of Glassine and Greaseproof papers make them ideal for diverse packaging chores.

LOOK AND EVALUATE!

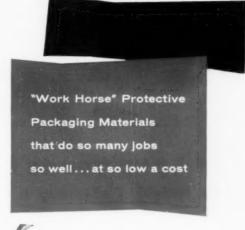
- 1. Greaseproofness
- 2. Oil and fat resistance
- 3. Vapor and odor resistance
- 4. High tensile strength
- 5. Wide range of basis weights
- 6. High gloss and smooth finish (Glassine)
- 7. Transparency, opacity, variety of colors
- 8. High density
- 9. An excellent coating base and printing surface
- 10. High ratio of mullen to basis weight
- 11. Compatibility with other packaging materials
- 12. Approved wet-strength properties

The built-in characteristics differentiating Glassine and Greaseproof from other papers may be enhanced by conversion. Coating, waxing, laminated combinations . . . and the addition of extra properties . . . heatseal, water-vapor resistance, gloss and release properties.

Glassine and Greaseproof are truly remarkable papers ... available in standard grades or tailor-made to exacting requirements.

AMONG THE MANY APPLICATIONS FOR GLASSINE AND GREASEPROOF...

Carton liners and dividers
Bags and bag liners
Package overwraps
Board lining
Unit packaging
Carton inner wraps
Canister and fiber tube laminations
Candy and cookie cups
Retail food service wrap
Package accessories and labels
Corrugation

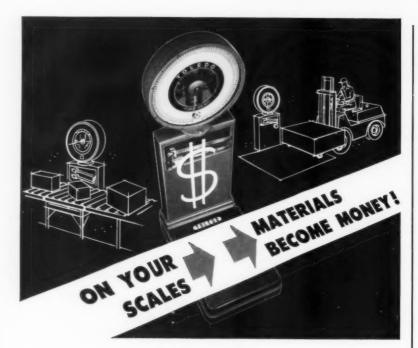




Write for samples and full information stating application or requirement.

RHINELANDER PAPER

Rhinelander Paper Company • Rhinelander, Wisconsin Subsidiary of St. Regis Paper Company



It will pay you to check now

on weighing efficiency in your plant!

For proper cost control, efficient weighing is a prime requirement. Weight records directly affect costs, quality, inventory control and customer billing. You can avoid weighing errors and inadequate weight data by placing the right scales in the right places . . . all properly integrated in a plant-wide weighing system to supply basic accounting records on materials received, transferred and shipped.

You can easily check up on the job your scales are now doing. Just ask for the exclusive Toledo Weight

Fact Kit. A Toledoman will gladly explain how it will help you detect and correct weighing inefficiencies in your plant. REQUEST YOUR WEIGHT FACT KIT NOW. No obligation. Address Toledo Scale, 1410 Telegraph Rd., Toledo 12, Ohio.



TOLEDO SCALE

Headquarters for Weighing Systems

DIVISION OF TOLEDO SCALE CORPORATION













REMOTE DIGITAL WEIGHT RECORDING

Plants and people

[Continued from page 177]

valve bags and stepped-end bags as well. The plant also has expanded its printing and engraving facilities.

Paper Dynamics, Inc., a representative and broker for manufacturers in the paper industry, has opened offices at 445 N. Lake Shore Dr., Chicago. Carl D. Pokorny, former v.p. of Inlander-Steindler Paper Co., is president.

The Pillsbury Co. is the new name adopted by the former Pillsbury Mills, Inc. The company is headquartered in Minneapolis.

River Raisin Paper Co., Monroe, Mich., has purchased a modern one-story building on a 9-acre tract in Lancaster, Pa. The property will be used for the manufacture of corrugated and solid-fibre shipping cases, according to the company.

Lane-Bender, Inc., New York design consultant, has created a Proprietary Drug Design Unit. The department's function will be to develop new techniques to stimulate impulse purchases through package design, L-B says.

Promotions

William Peist: to sales mgr., Standard Products Div., Gilman Paper Co., New York. He will supervise sales of sealing tapes, wrapping and unbleached converting kraft from New York.

Frederick I. Roderigas: to director, Customer Seamer Service Dept., serving Central and Atlantic Divs., National Can Corp., Chicago. He succeeds J. T. Shipley, now gen. mgr. of the new Atlantic Division.

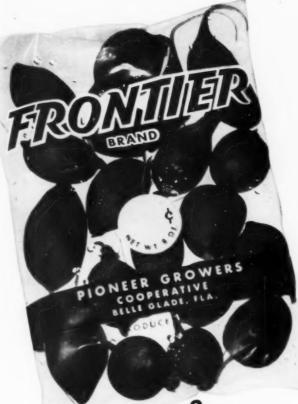
P. D. Larsen: to mgr., Central sales district, Rhinelander Paper Co., Rhinelander, Wis. The company makes glassine and greaseproof paper.

John R. Cullinane: to sales mgr., paper specialty plants, Bemis Bro. Bag Co., St. Louis.

L. George Hoth: to mgr., advtg. and mdsng., Borden Chemical Co., New York. The promotion follows consolidation of Borden's advertising and merchandising functions.

James C. Richards, Jr.: to v.p. of sales, B. F. Goodrich Industrial Products Co., Akron, O. Harry B. Warner: to v.p. of mktg., B. F. Goodrich Chemical Co., Cleveland.

Dr. George W. Low, Jr.: to mfg. mgr., American Viscose Corp., Film Div., Philadelphia. Dr. Low will continue as mgr. of the Fredericksburg, Va., cellophane plant. Charles R. Shaffer: to special rep., a new position in the New



this
polyethylene
package
is made with
5% LESS
film!

STOKESWRAP "impulse seal" eliminates tabs, cuts film costs

Every seventh package at no cost! That, in effect, is what Pioneer Growers Cooperative of Belle Glade, Florida, has achieved with Stokeswrap "impulse sealing" to package its famous brand of radishes.

With conventional sealing methods, each package required an additional inch of film in the form of tabs or ears. With Stokeswrap impulse sealing, however, the package is cut off at the seal, eliminating the tabs and saving up to 15% in film length required. Electric eye control assures positive registration of the printed web. Positive sealing and cutoff are completed quickly in one automatic operation at high speed. The web is held in constant tension with no reversing, for smooth trouble-free operation.

"Due to the nature of this sealing and cut-off device, we can safely say we are saving nearly 15% in film," reports Mr. F. C. Dooley of Pioneer Growers.

Made from 1.25 mil polyethylene web $11\frac{1}{6}$ " wide, the 8-ounce package above measures $5\frac{1}{6}$ " x $73\frac{4}{6}$ ". Elimination of conventional ears saves 1-inch of film length per package. Stokeswrap with its wide selection of feeds — pocket, auger, tablet counting, net-weight scale and special mechanisms — is ideally suited to polyethylene packaging a great variety of products.

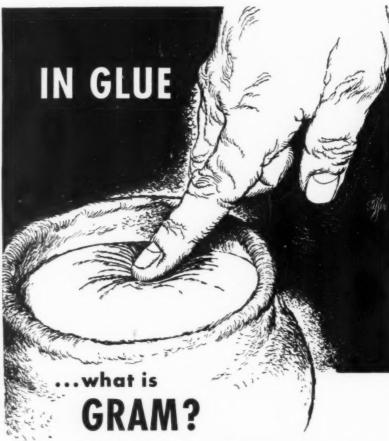
For complete details on how "impulse sealing" can cut your packaging costs, write to:

Putting Ideas to Work

FOOD MACHINERY AND CHEMICAL CORPORATION FMC Packaging Machinery Division

Stokes & Smith Plant 4904 SUMMERDALE AVENUE, PHILADELPHIA 24, PA.





• To the animal glue manufacturer, buyer or user, "gram" doesn't mean how much. It means how strong.

It's a measurement of GEL STRENGTH which in turn is an indication of adhesive properties.

In the old days, the strength of a glue was judged by poking a finger into a chilled glue gel. The degree of resistance determined the grade.

Today, modern laboratory apparatus replaces the "finger poking" technique and accurately measures gel strength in terms of weight in grams.

Also, better *production* techniques are now yielding much higher gel strength bone glues.

Within the extended range of grades offered by Darling & Company—

		GREEN STRIPE196-220	grams
ONE OF THESE	_	ORANGE STRIPE	grams
		ORANGE STRIPE 146-170	
YOUR JOB	-	RED STRIPE	grams
MOST 4	-	RED STRIPE	grams
ECONOMICALLY 4		RED STRIPE81-100	grams
		BLACK STRIPE30-80	

Shipped in 100 lb. multiwall bags. For prices and technical information see your Darling representative or write

DARLING & COMPANY

GLUE DIVISION

4201 South Ashland Avenue, Chicago 9, Illinois Animal By-Products Is Our Main Business



Plants and people

York sales office, of the Film Div. Mr. Shaffer was formerly head of Div. advertising in Philadelphia.

Paul A. Florian: to director of product planning, a new position, Miehle-Goss-Dexter, Inc., Chicago, manufacturer of printing equipment.

Frederick B. Lee: to director, Washington, D. C., office, Olin Mathieson Chemical Corp., New York. Mr. Lee joined the company in January of 1957.

Dale S. Hodges: to asst. sales mgr., Allegheny Steel Band Co., Pittsburgh, Pa. Mr. Hodges was formerly district mgr. in Cincinnati.

Raymond W. Mann and Starr W. Stanyon: to v.p.'s, Hoague-Sprague Corp., Lynn, Mass., sub. United Shoe Machinery Corp., Boston.

Appointments

Robert M. Hull: to director of product development, Coty, Inc., New York. He has developed packages and products for a number of companies,

Jack A. Lutzow: to director of packaging and graphics, a new position, Jon W. Hauser, Inc., industrial designer, St. Charles, Ill.

Carl F. Schneider: from packaging engineer, White Laboratories, Inc., Kenilworth, N. J., to director of package development dept., Rexall Div., Rexall Drug Co., Los Angeles.

Howard Pound: from Geigy Chemical Corp. to sales rep., Eastern div., Newman-Green, Inc., Addison, Ill. The company manufactures aerosol valves for bottles and cans.

Montague Mead: from International Paper Co., Container Div., to salesprom. mgr., a new position, Niagara Corrugated Container Co., div. St. Regis Paper Co., New York.

Nicholas T. Baldanza: to asst. to the pres., Arnkurt Associate Engineers, New York, designer of automatic machinery, molds and other equipment.

Tadao Takano: to designer, Benolken-Douglas-Minnick, Inc., Chicago design firm. Mr. Takano specializes in package design as well as trademarks and corporate identification.

Obituaries

William R. House, since 1947 mgr. of the Rochester, N.Y., sales branch of the Glass Container Div. of Owens-Illinois Glass Co., Toledo, died Sept. 7. He was 62. In 1923, Mr. House joined what was then the closure div. of the Owens Bottle Co. He was appointed Eastern sales mgr. in 1931.

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No glue, no water, no lost time with Sensi-Stick, our special pressure-sensitive labels. Permanent or removable, individual or in rolls.

Send us your labels for redesign, without charge or obligation; or ask for our estimate on printing your present labels. Telephone, wire or write to any representative below or to A. M. Steigerwald Co., 910 West Van Buren, Chicago 7. Tel. TAylor 9-5400.

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DETROIT 3, MICH. Harry W. Hogg 20157 Greeley Ave. Diamond 1-3848

LOUISVILLE, KY. Practical Products Co. 319 Jefferson St. Juniper 7-1257

A. C. Foster 1747 Chester Ave. Cherry 1-2468

A. B. Mason 905 Jefferson St. Victor 2-6580

CLEVELAND 14, O. KANSAS CITY 5, MO. MILWAUKEE, WIS. H. C. Lackowski 8849 So. 76th St. Garden 5-5850

MINNEAPOLIS, MINN. J. E. & J. L. Moor 3329 Dupont Ave., So. Taylor 4-5309

ROCKFORD, ILL. Blackhawk Paper & Cordage 630 Cedar St. 4-5261

NEW YORK 25, N. Y. John H. McLaren 500 West 111th St. Monument 2-0237

ST. LOUIS 5, MO. Marvin Yates Co. 111 So. Bemiston Ave. Parkview 6-0296



For your information

The semi-annual meeting of the Glass Container Mfrs. Institute is being held Nov. 10-13 at The Cloister, Sea Island, Ga. Speakers include Gen. Carlos P. Romulo, Philippine Ambassador to the U.S.; Glenn A. Mengle, pres. of GCMI, and industry representatives. H. C. Herger of Pierce Glass Co. is chairman of the program committee, which also includes E. D. Easterby of Laurens Glass Works and J. Gordon King of the Hazel-Atlas Glass Div., Continental

The Lithographers National Assn. this month will mail announcement brochures and entry blanks for its 9th annual Lithographic Awards Competition & Exhibit. Deadline for receipt of all entries is Jan. 13, 1959. Winning entries in the 49 classifications of material to be judged will be announced at an awards dinner to be held April 13 during LNA's 54th annual convention at The Greenbrier, White Sulphur Springs, W.Va. Chairman for the 1959 competition is Thomas P. Mahoney of The Regensteiner Corp. Additional information and entry blanks may be obtained from LNA offices at 1025 Connecticut Ave., N.W., Washington 2, D.C.; 597 Fifth Ave., New York 17, and 127 N. Dearborn St., Chicago 2.

The National Flexible Packaging Assn. has moved its headquarters to 11750 Shaker Blvd., Cleveland 20. Telephone number of the association's new office is Washington 1-0778.

The Fibre Box Assn. has re-elected 12 packaging executives to its board of directors. They are: S. F. Allison, Container Div., Ohio Boxboard Co.; Melvin I. Bricker, David Weber Co.; Matthew R. Campbell, Buffalo Corrugated Container Co.; Lester R. Edwards, Owens-Illinois Glass Co.; J. H. Folkerth, Birmingham Paper Co.; Joseph L. Gidwitz, Lanzit Corrugated Box Co.; Charles T. Ingram, Jr., Carolina Container Co.; Wayne W. Jackson, Hoerner Boxes, Inc.; Lloyd Merwin, Crown Zellerbach Corp.; Fred W. Oldenburg. American Box Board Co.: Randall A. Ross, Cornell Paperboard Products Co., and Norman H. Stone, Stone Container Corp., Chicago.

The Modern Plastics Encyclopedia Issue for 1959 was published in September by Modern Plastics magazine. The 1,218-page, hard-cover issue is so arranged that the flow of editorial matter follows the plastic product from its conception and design through selection of the basic resin and right up to final processing and finishing.

The editorial content is divided into 13 sections: Planning for the Plastics Product; Resins and Molding Compounds; Foamed Plastics; Chemicals for Plastics; Film, Sheeting and Shapes; Fillers and Reinforcements; Laminates and Reinforced Plastics; Primer of Plastics; Plastics Glossary; Technical Data; Engineering and Methods; Fabricating and Finishing, and Machinery and Equipment. There follows a 14-page Manufacturers' Literature section and a 135-page Directory section. The issue also contains 11 updated technical charts,

The Packaging Institute reports that 23 test procedures for paper will be brought up to date and republished as the result of a study just completed by its Paper Committee. A review of all Paper Committee test procedures was conducted by Subcommittee II, which compiled its recommendations for submission to the full committee. The subcommittee next will review the routine control methods of the Technical Assn. of the Pulp & Paper Industry and will recommend the adoption of a similar series of tests by PI. The final phase will be preparation of a booklet dealing with all findings.

The National Paperboard Assn. is holding its 26th annual meeting Nov. 11-12 at the Waldorf-Astoria Hotel in New York. Among the featured speakers are: George Sokolsky, nationally syndicated columnist; Lloyd Stouffer, editor of Modern Packaging, whose topic is "Trends in Paperboard Packaging," and Donald J. Hardenbrook, v.p. of Union Bag-Camp Paper Corp.

Theme of the Chemical Specialties Mfrs. Assn.'s 45th annual meeting, to be held at the Hotel Commodore in New York, Dec. 8-10, will be: "After you spend money making the product, will your label permit you to sell it?" Among the highlights of the meeting will be presentation of CSMA's Annual Achievement Award and presentation of awards in the association's Aerosol Package Contest.

Boonton Molding Co. has just published the 11th revision of "A Ready Reference For Plastics." The non-technical, 132-page book contains complete discussions of almost every commercially available plastic material. Included in the section for each plastic is its history, how and why it is used, a list of physical properties, the types of molding for which it is suited and other pertinent data. Copies are available without charge by writing on your company letterhead to Boonton Molding Co., 326 Myrtle Ave., Boonton, NJ.

Recommended international standards on methods for testing plastic materials are being discussed at the International Standards Meeting on Plastics, which began Nov. 3 in Washington, D.C. The meeting, being attended by delegates from 20 nations, is conducted by the American Standards Assn. The American Society for Testing Materials is responsible for U. S. technical participation in the project. ASA reports also that 10 American Standard Specifications for metal drums and pails ranging in size from 5 to 55 gal, have been published. The newly approved standards were submitted by the Petroleum Packaging Committee of the Packaging Institute.

The Gravure Technical Assn. has published a 36-page booklet of excerpts from the agency and packaging sessions at its 1958 convention. The articles, reprinted from the June issue of the GTA Bulletin, include two panel presentations on newspaper supplements and magazines, and a panel presentation on color photography in packaging. Copies of the booklet, at 10 cents each, are available from the association at Room 4800, 30 Rockefeller Pl., New York 20.

The Packaging Institute has published four new manuals: "Results of 1957 Questionnaire on Flexographic Equipment and Operational Data," "Manual of Testing Methods for Labeling Adhesives," "19th Annual Forum Proceedings," and "Papers Presented at Special Technical Sessions by PI."

The seven-page flexographic-printing report contains a percentage breakdown

Events

Nov. 10-13—Glass Container Mfrs. Institute, semi-annual meeting. The Cloister, Sea Island, Ga.

Nov. 11-12—National Paperboard Assn., 26th annual meeting, Waldorf-Astoria Hotel, New York.

Nov. 12-13—Chemical Market Research Assn., fall meeting, St. Paul Hotel, St. Paul.

Nov. 17-20—American Bottlers of Carbonated Beverages, international soft-drink industry exposition, Atlantic City.

Nov. 17-21—The Society of the Plastics Industry, 8th national plastics exposition and conference, Hotel Morrison and International Amphitheatre, Chicago.

Dec. 8-10—Chemical Specialties Mfrs. Assn., 45th annual meeting, Hotel Commodore, New York.

Dec. 10-12—Super Market Institute, mid-year conference, Hollywood Beach Hotel, Hollywood Beach, Fla. Dec. 13—National Food Brokers Assn.,

Dec. 13—National Food Brokers Assn., annual national food sales conference, Chicago.

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on the types, age, speed and accessories of 496 presses in 62 printing plants. The 49-page manual on adhesives specifies sampling procedures, tests for solids content, viscosity determinations, effect of mold contamination, bonding rates and permanency tests prepared by PI's Committee on Adhesion to Glass,

The four-volume Forum proceedings present in 334 pages the full texts of seminar speeches on package marketing, flexographic printing, packaging research and development, closures, shipping containers, bleached board, bag and bulk packaging, drug and phar-maceutical packaging and productionline operations. Papers presented at the PI technical sessions, held jointly with the Packaging Machinery Mfrs. Institute Exposition, are published in a 147page manual. They cover the range of polyethylene packaging, extruded packages, cartons and the problems and specifications of high-speed packaging machinery.

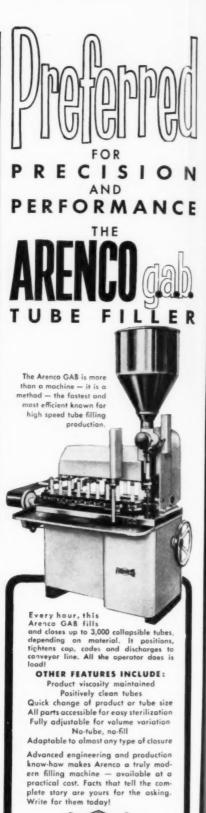
Prices of these publications are: \$1 for flexographic equipment, \$5 each for the adhesive-tests and technical-sessions papers, and \$20 for the four-volume Forum proceedings. They are available from the Packaging Institute, 342 Madison Ave., New York 17.

The National Automatic Merchandising Assn. held its 12th annual convention and exhibit Nov. 2-5 at Kiel Auditorium, St. Louis. About 140 suppliers and machine manufacturers had exhibits at the show.

The 13th annual Point-Of-Purchase Advertising Institute Exhibit will be held March 24-26, 1959, at the Palmer House in Chicago. PopAI points out that the annual show gives packagers the opportunity to see many of the latest point-of-purchase materials available.

The U. S. Dept. of Commerce, through its Office of Technical Services, has published a 21-page booklet titled "Compatibility of VCI With Rubber." The booklet describes tests which resulted in the recommendation of volatile corrosion inhibitor (VCI) papers for the preservation of ferrous metal items in which rubber fabrications are an integral part. Copies of the booklet (serial PB 131544) may be obtained for 75 cents from OTS, U. S. Dept. of Commerce, Washington 25, D.C.

"Design Responsibilities and Directions" was the theme of the 14th annual Design Conference and Meeting of the American Society of Industrial Designers, held Oct. 18-21 in Bedford Springs, Pa. Through a series of panel discussions and talks, conference attendees attempted to analyze the precise roles of industrial designers and management in America's present and future economy.



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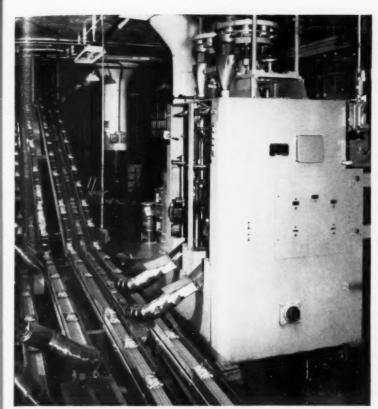
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Why General Mills chose Robo-Wrap for Pick-A-Pack

This new Robo-Wrap at General Mills' Chicago plant will soon be joined by 2 more machines—because it has been proved that Robo-Wrap increases the efficiency and economy of their packaging operation. The Robo-Wrap forms, fills and seals pillow packages. Under production line conditions at General Mills, the Robo-Wrap cruises at 100 bags a minute and can run at 120...it provides a better seal and fewer rejects even at these high speeds because its unique hand-overhand action holds jaws in sealing position for a longer time...it minimized work stoppages due to torn paper roll stock because the combination mechanical and hydraulic jaws exert a strong, jerk-free pull...it is easily adaptable to handle a variety of other products.

Robo-Wrap packages in cellophane, paper, poly, plastic or laminates. See how it can answer your needs for speed, dependability, easy maintenance and adaptability.



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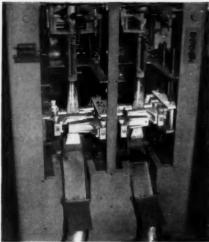
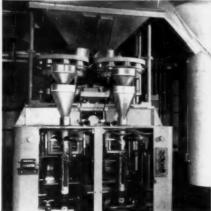


Photo shows hand-over-hand sealing action. Lower jaws, now disengaged, start to go up and pass on the outside of still-engaged pair of jaws.



Robo-Wrap versatility permits many different feeding arrangements. At General Mills, there is a volumetric feeder leading from storage hopper supplied from floor above.



General Mills Pick-A-Pack Package offers five tasty breakfast foods—Wheaties, Cheerios, Kix, Trix, and Sugar Jets—in one attractive carton.





U. S. patents digest

This digest includes each month the more important patents of interest to those who are concerned with packaging materials. Copies of patents are available from the U. S. Patent Office, Washington, at 25 cents each in currency, money order or certified check; postage stamps not accepted. Edited by H. A. Levey.

Method of and Machine for Filling Bottles with Capsules, Omer E. Cote et al (to United States Automatic Box Machinery Co., Roslindale, Mass., a corporation of Massachusetts). U.S. 2,845,759, Aug. 5. In a bottle-filling machine, the combination comprising a plurality of parallel vertical channels sized to guide articles in single file, means for continually depositing articles in the upper end of each channel, gate means, holding means, means for withdrawing said gate and means preventing operation of said means for withdrawing said gate until articles in all of said channels at said selected points are engaged by said holding means.

Bag-Top Closing and Sealing Machine, Frank L. Hopkins et al (to Bemis Bro. Bag Co., Minneapolis, a corporation of Missouri). U.S. 2,845,760, Aug. 5, An improvement in a machine for closing and sealing the open tops of large flexible-walled bags.

Apparatus and Method for Filling Containers with High-Pressure Gas, Tully J. Bagarozy, Elizabeth, N.J. U.S. 2,845,761, Aug. 5. An apparatus for filling with high-pressure gas single-aperture-mouth containers containing a beaded mouth rim and thereafter sealing said filled container with a cap.

Can-Handling Fixture, Le Roy R, Kelman et al (to the United States of America as represented by the United States Atomic Energy Commission). U.S. 2.845,762, Aug. 5. An apparatus for supporting in a bath of molten metal a can open at the top and closed at the bottom to permit the can to be provided with an internal coating and to receive a core to be bonded thereto.

Packaging Machine, Llewellyn Wonsidler, Doylestown, Pa. U.S. 2,845,763, Aug. 5. In a packaging machine the combination of: drive means, supply means for supplying two strips of thin sheet material, guide means, a loading station, a holding station, holding means, severing and disengaging means, stacking and ejecting means with the holding means, the severing and disengaging means, the stacking and ejecting means and the package-conveyor mechanism.

Wrapper Feed for a Meat-Packaging Machine, Donald R. Forry (to Dale E. McCarty, Fostoria, O.), U.S. 2,845,764, Aug. 5. In a wrapper feed for a packaging machine, a conveyor having ring plates to support rings for the packages, a roll of wrapping material adapted to be fed onto said plates, means to effect such feeding, means normally biasing said holding flanges against said wrap-

ping material to hold it clamped to the ring plate, and means for moving said clamp plates against their bias.

Method and Apparatus for Producing Bags, Willard E. Hahn (to St. Regis Paper Co., New York, a corporation of New York). U.S. 2,845,849, Aug. 5. In the manufacture of bags having satchel bottoms of a selected width, the steps of: forming two pairs of parallel longitudinally extending score lines in a web; forming the web so scored into a flat tube; forming transversely of the end region of such flat bag tube two relatively short score lines; opening and spreading to a substantially flat condition such end region of such tube, forming a pair of parallel base fold score lines in said spread end; applying adhesive, and folding said side flaps over one another.

Dispensing Bottle, Eli A. Zackheim (to Johnson & Johnson, New Brunswick, N.J., a corporation of New Jersey). U.S. 2.845,963, Aug. 5. A liquid-dispensing container comprising in combination: a bottle having a neck opening, a well tube and a cap comprising a dropper.

Closure, Robert J. Ellingen (to the United States of America as represented by the Secretary of the Army). U.S. 2,446,113, Aug. 5. The combination (with a container wall having an opening therein and fixed anchors on opposite sides of said opening) of: a closure; compressible sealing means; a pivo: pin; an actuator, said actuator having a pair of laterally spaced hooks fixed thereto and continued pivotal movement of said actuator in the same direction being operative to elevate said cranks and cam said closure to a sealing position.

Collapsible Bottle Carriers, William A. Ringler (to The Diamond Match Co., New York, a corporation of Delaware). U.S. 2.846,114, Aug. 5. A twin-compartmented bottle carrier formed from a onenicce blank.

Carrier or Holder for Bottles and the Like, Nicholas La Guardia, Buffalo, N.Y. U.S. 2,846,115, Aug. 5. A carrier of flexible sheet material for articles such as bottles or the like disposed horizontally therein, said carrier being formed of two layers of material arranged back-to-back.

Apparatus for Feeding Boxes, Dwight R. Gardner (to The American Thread Co., New York, a corporation of New Jersey). U.S. 2,846,116, Aug. 5. An apparatus for automatically and successively ejecting boxes in opposite directions from a stacked series.

Tubular Carton Having Automatically Erectable Diagonal Partition, Glenn E. Struble (to Diamond Gardner Corp., New York, a corporation of Delaware). U.S. 2,846,131, Aug. 5. A one-piece tubular carton having an integral, automatically erectable, diagonally disposed internal partition.

Leakproof Carton, James R. Carpenter (to Container Corp. of America, Chicago, a corporation of Delaware). U.S. 2,846,132, Aug. 5. A carton formed of sheet material possessing substantial rigidity and resilience and comprising a plurality of panels and bellows folds.

Self-Locking Folding Box, Edward R. Burden, Dallas, Tex. U.S. 2,846,133. Aug. 5. A folding box having a bottom and folded double-wall sides and ends, each wall of the double-wall sides having returns at both ends engaging the ends between their double walls.

Method of Attaching Resilient End Closures to Containers, Walter J. Dobbins (to American Can Co., New York, a corporation of New Jersey). U.S. 2,846,831, Aug. 12. A method of attaching a resilient-material closure member to a container designed for holding liquid products.

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Band-Applying Device and Method, John G. Aguilar et al (to John Burton Machine Corp., Concord, Calif.). U.S. 2,846,835, Aug. 12. A device for longitudinally feeding an elongated, flexiblewalled tubular member onto the neck of a vertically disposed bottle.

Method of Making Bags, Emanuel S. Kardon et al (to American Bag & Paper Co., Philadelphia). U.S. 2,846,928, Aug. 12. The method of sealing a pair of adjacent flaps on the bottom of a partially formed bag in which the bottom is formed of two flaps.

Method of Erecting Cartons, Robert J. Hickin (to The Ohio Boxboard Co., Rittman, O., a corporation of Ohio). U.S. 2.846,929, Aug. 12. The method of erecting the blank of a carton having a bottom, side walls foldably connected with the bottom and formed of outer and inner plies relatively foldable into juxtaposition.

Method of and Apparatus for Making a Carton, Frank C. Gross (to Package Machinery Co., East Longmeadow, Mass., a corporation of Massachusetts). U.S. 2,846,930, Aug. 12. A machine for forming cartons from pre-cut blanks, said machine having a mandrel plunger and a cooperating folding die through which the blank is carried.

Edger Means for Bending the Edge of a Can Blank, Roland E. Renard (to National Can Corp., Chicago, a corporation of Delaware). U.S. 2,847,051, Aug. 12. Edger means for a can-body



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NOVEMBER 1958

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U.S. patents digest

maker for bending the edge of a can blank backwards at an acute angle.

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Package for Tin Plate or the Like, Ernest F. Miller et al (to United States Steel Corp., a corporation of New Jer-sey). U.S. 2,847,120, Aug. 12. A package for sheets of tin plate or the like, comprising a platform having a deck and at least two supporting runners.

Shipping Carton for Wraparound Windshields and the Like, Having Foldable Cushioning Flaps, Lloyd D. Van Antwerpen, Milwaukee. U.S. 2, 847,152, Aug. 12. A carton comprising spaced parallel side walls, end, top and bottom walls, closure flaps and inwardly projecting V-shaped end-cushioning blocks formed on the end walls, said end-cushioning blocks having bentback tongues.

Dispenser Box, Reynolds Guyer et al (to Waldorf Paper Products Co., St., Paul, a corporation of Minnesota). U.S. 2,847,153, Aug. 12. A dispensing container including rectangularly arranged walls, closure flaps, the bottom portion of the front wall being hingeable from its overlapping relation with the upper portion, and flaps on the bottom.

Box-Handling Device, Thomas L. Les-lie (to Libby, McNeill & Libby, Chi-cago, a corporation of Maine). U.S. 2,847,245, Aug. 12. An improvement in box-handling device for use with boxes having a substantially open upper face and flanges extending laterally from the upper edges of said box walls.

Method of Attaching a Tearing Strip Key to a Can Wall, Richard L. Joosten (to American Can Co., New York, a corporation of New Jersey). U.S. 2, 847,340, Aug. 12. The method of attaching a metal opener to a can end.

Bag-Bottoming Machine, John S. Davis (to Equitable Paper Bag Co., Long Island City, a corporation of New York). U.S. 2,847,914, Aug. 19. Bagbottoming machine wherein a flat web is perforated at spaced transverse positions to form web sections.

Bag-Closing Apparatus, William R. Peterson (to St. Regis Paper Co., New York, a corporation of New York). U.S. 2,847,955, Aug. 19. In apparatus for closing open-mouthed filled bags, the combination comprising: a conveyor, a pair of opposed rollers, means for driving said rollers, a stop means and means for guiding a continuing strip of tape and folding over same astride said member and then astride the top end edges of the bag.

Method of Applying Preformed Liner to a Metal Container, Marshall H. Switzer (to Continental Can Co., New York, a corporation of New York). U.S. 2,847,959, Aug. 19. The method of lining a container having top and bottom ends secured to the body wall by double seaming, wherein the top end has a neck portion terminating in an opening, said method comprising securing one of the ends to the body portion by a loose first-operation double seam. Tape Dispenser, Charles Castelli (to Johnson & Johnson, New Brunswick, N.J., a corporation of New Jersey). U.S. 2,848,046, Aug. 19. A cutter for a tape dispenser comprising a sheet of metal having its ends rolled to form respective channels.

Container-Feeding and Transfer Mechanism, William Pechy (to American Can Ca., New York, a corporation of New Jersey). U.S. 2,848,094, Aug. 19. A mechanism for feeding and transferring can bodies.

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Dispensing Protective Package for a Plurality of Rolls of Web Material, Abraham Schor et al (to Robert J. Rudnick, Rockville Centre, N.Y.). U.S. 2,848,104, Aug. 19. In a package of the character described, an openable box having walls including two parallel side walls, rolls of web material, supporting means, partitions and a channel releasably engaged and removable from the box, one of the walls of which is of a construction to permit exit of the webs out of the box so that they emerge close to each other.

Improved Normally Tacky and Pressure-Sensitive Adhesive Tape, Charles Bartell et al (to Permacel-Le Page's Inc., a corporation of New Jersey). U.S. 2,848,105, Aug. 19. A paperbacked, normally tacky and pressure-sensitive adhesive tape wound upon itself in roll form having improved characteristics of wet tensile strength, delamination resistance, flexibility.

Pressure-Resistant Closure, Charles J. Jesnig (to DuoVent Vacuum Closure Co., Philadelphia, a corporation of Pennsylvania). U.S. 2,848,130, Aug. 19. A bottle and stopper combination susceptible to autoclaving pressures.

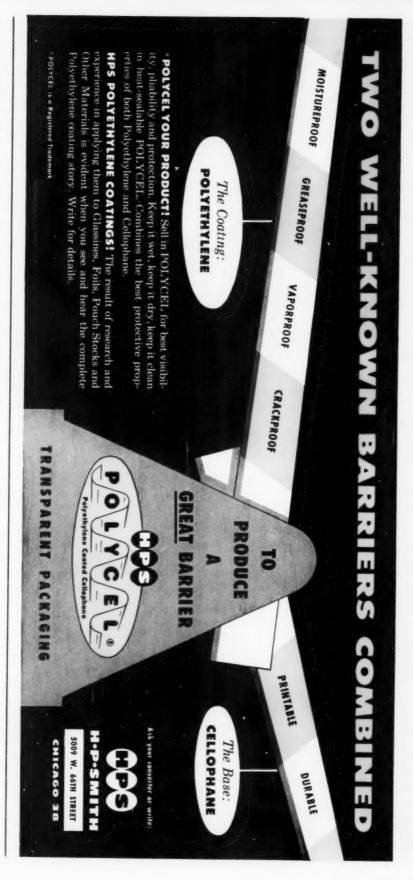
Locking Means for a Fabricated Box, George Carlson (to General Electric Co., a corporation of New York). U.S. 2,348,134, Aug. 19. A box comprising a main body member and at least one separate plate member that is to be attached thereto.

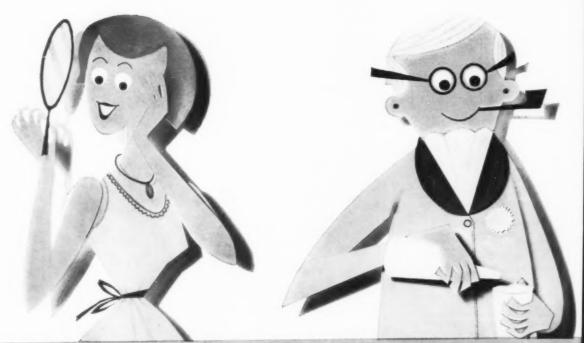
Multi-Cell Bottle Carrier, William A. Ringler (to The Diamond Match Co., New York, a corporation of Delaware). U.S. 2,848,136, Aug. 19. A multi-cell, twin-compartmented bottle carrier formed from a single sheet.

Sealed Container, John G. O'Neil (to Safe-Pack Container Co., Minneapolis, a corporation of Minnesota). U.S. 2. 848.151, Aug. 19. In a container formed from a laminated sheet of material, a joint structure comprising a sealing tape exhibiting adhesive characteristics disposed between the offset layers adjacent an offset edge of the laminate.

Paper Container and Blank for Constructing Same, Clarence H. Geiger, Sr., Rogersville, Tenn. U.S. 2,848,152, Aug. 19. A blank for constructing a container, said blank being generally rectangular and having pairs of transverse fold lines dividing the blank into a pair of relatively wide rectangular panels and a pair of relatively narrow rectangular panels.

Bag-Valve Opener, Aaron P. Watts (to Diamond Alkali Co., Cleveland, a corporation of Delaware). U.S. 2,848.857, Aug. 26. A bag-valve opener comprising, in combination: a horizontally extending housing and a support there-





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192

MODERN PACKAGING



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Maybe you sell health or beauty, refreshment or food—but you can sell more in glass by H-A. In crystal flint, rich amber, snowy opal, or colorfully designed re-use tumblers, H-A wraps your products in a beautiful showcase. That's why more of the eyes that buy are focused on products packaged by H-A.

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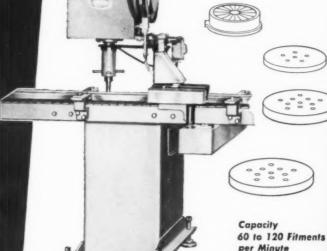
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RESTRA

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U.S. patents digest

[Continued from page 191]

fore, a horizontal opening in said housing, two horizontal fingers extending therefrom and secured to carrying members, and a flexible, nonextensible connector, the cross section defined by said fingers in a closed position being small enough to slide into said valve.

Carton-Erecting Machine, Edouard E. Geschwind et al (to Owens-Illinois Glass Co., Toledo, a corporation of Ohio). U.S 2,848,926, Aug. 26. A carton-erecting machine comprising a support, a blank folding die, a bottom carton retainer, means for moving said retainer, a plunger and an interlock.

Container Coupler, Adolph Weiss (to American Can Co., New York, a corporation of New Jersey). U.S. 2,849,110, Aug. 26. A twin-package unit wherein substantially flat, juxtaposed vertical side walls of the packages are held one against the other by coupling means.

Article Carrier, Francis W. Fielding (to Lengsfield Brothers, Inc., New Orleans, a corporation of Louisiana), U.S. 2,849,111, Aug. 26. In combination a carton and a plurality of cylindrical articles, said carton being formed of paperboard or the like with interconnected panels defining an open-ended container.

Paperboard Carrier Having Embossed End Edge Portions, Homer W. Forret (to Mead-Atlanta Paper Co., a corporation of Ohio). U.S. 2,849,112, Aug-26. A paperboard wrapper of the type arranged to be transversely folded and secured about cylindrical objects.

Can-End Seam, Delmont J. Lohuis (to American Can Co., New York, a coporation of New Jersey). U.S. 2,849-148, Aug. 26. A tubular, sheet-metal can comprising a body member having a side seam which extends the entire length of said body member and an end member secured to the body member in an interfolded end seam.

Stacking Container, George C. Hell (to American Viscose Corp., Philadelphia, a corporation of Delaware). U.S. 2,849,151, Aug. 26. A stacking container for housing a long and heavy roll as used in industry.

Dispenser Carton, John N. Tuttle (to Rhinelander Paper Co., Rhinelander Wis., a corporation of Wisconsin), U.S. 2,849,152, Aug. 26. A carton for dispensing a sheet at a time from a stack of sheets contained therein.

Dispensing Device, John N. Tuttle (to Rhinelander Paper Co.) U.S. 2.849: 153, Aug. 26. A dispensing device for a stack of sheets.

Bag with Tie Member for Closins and Carrying It, Charles S. O'Bries Jr. (to Bemis Bro. Bag. Co., St. Louis a corporation of Missouri). U.S. 2849, 171, Aug. 26. A tubular, open-topped flat bag including opposed wall dements of thin flexible sheet material joined at side and bottom edges.

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MODERN PACKAGING

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Crescent Ink was one of the first flexographic houses; the first pigment flexographic inks were developed here. Typical of its present pioneering is K.O. Flex, the only alcoholbase ink for K films that prints without overlacquer. These inks are heat-resistant and non-blocking. As new package materials are developed, Crescent promptly develops special inks for them. May we help you?



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GCMI-MSU meeting

Staff members of the Glass Container Mfrs. Institute, faculty members of Michigan State University's School of Packaging, as well as representatives of GCMI member companies, addressed a recent two-day



Testing instrument at Michigan State University being inspected by (left to right): P. T. Menoher, Owens-Illinois; Victor L. Hall, GCMI; R. O. Spalding, Owens-Illinois, and Raymond Wells, Armstrong Cork Co.

conference on "Packaging Glass Containers"—the first of its kind ever held.

The event, sponsored by GCMI's Committee on Package Design and Specifications, took place at Kellogg Center on the MSU campus at East Lansing. The institute maintains a Packaging Research Laboratory operated in conjunction with the university's School of Packaging. Conference chairman was Thomas J. Henson of Thatcher Glass Mfg. Co., Inc., and attendance at the meeting numbered about 75.

W. H. Cook of Anchor Hocking Glass Corp.'s Corrugated Containers Division pointed out the necessity for those in the glass-container business to be well acquainted with facts concerning corrugated board so that they will know how that industry can provide adequate protection for glass at an economical cost. Mr. Cook stated that this is essential if the glass industry "is to continue to expand in an increasingly competitive market."

GCMI's general manager, Victor L. Hall, reported that committee members had confirmed figures obtained from an earlier independent survey showing that, on the average, 80 sq. ft. of corrugated board are required to package a gross of glass containers. On this basis, the glass-container industry in 1957 used more than 11 billion square feet of cor-



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A new, exclusive development for tight-toproduct poly bag packaging.



- · Low operating costs. (No operators at sealing machine.)
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New Perfection dropping parts will fit your bottle or can be furnished in combination with our Modernistic bottles in Amber, Blue, Green or Clear glass. Bottle sizes — ½, ¼, ½, 1 and 2 oz. (Immediate shipment on all sizes and colors)

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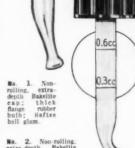
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NOVEM



No. 2. Non-rolling, extra-depth Bakelite cap; thick flange rubber bulb; special bent glass (CALI-BRATED IN COLOR).

No. 3. Regular plastic cap; thin flange rubber bulb; semi-blunt glam.

We can give prompt service on your special require-ments for large or small quantities of droppers made from glass or plastic and in special packaging such as cellophane-wrap. Write for samples and

GLASS PRODUCTS CO., INC.

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Amsco

rugated board. Estimates, he said, indicated that with overhead and labor applicable to packaging departments added to this material cost, the total would run \$150 million for 1957.

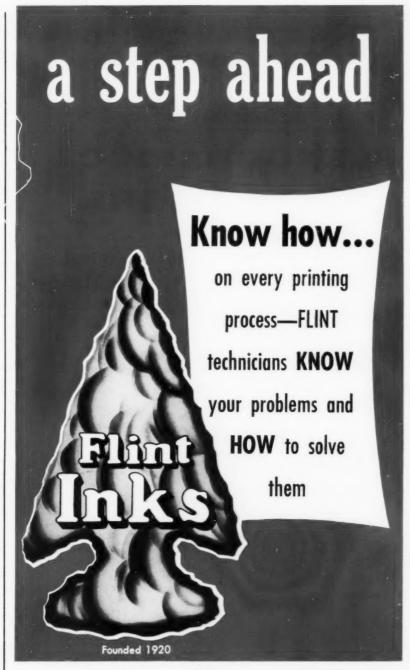
A technical paper presented at the conference revealed that the GCMI Packaging Research Laboratory had advanced package evaluation beyond the laboratory stage. A combination test method involving a "slip-loaded boxcar" and full-scale boxcar impacts in a series of test track studies gave informative direct comparisons of various interior packaging materials, substantiating in many respects the value and reliability of Conbur laboratory testing in general.

R. E. Wirth of Ball Bros. Co. presented a paper on Rule 41 of the Railroad Freight Classification. Dr. Alexis J. Panshin, head of MSU's Forest Products Dept. and, as such, head of its School of Packaging, discussed the packaging curriculum offered by the university. One of the features of the conference was an afternoon devoted to inspecting paperboard and packaging testing instruments which are available at Michigan State University. End

Variety-store awards

Personal Products Corp.'s folding cartons for Modess Tampons and Modess Sanitary Belts were named jointly as "Best Package of the Year" in the 22nd annual Variety Store Packaging Competition, sponsored by Variety Store Merchandiser magazine. Selected from more than 900 entries, the Modess packages (which also won a gold award in the "Notions" classification) were cited for the effective way in which national advertising ties in with the retail packaging.

A total of 48 awards—10 gold and 38 silver—were made in the competition's 10 merchandise classifications. Selection of winning packages was made by a panel of six judges, whose chairman was J. H. Hawes, sales director of W. T. Grant Co. Speaking for the judges, Mr. Hawes noted the large number of privatelabel designs submitted. He said it is an indication of the "keen competition now going on for the customer's eye and the fact that the private label intends to be as exciting and laring as national brand." End



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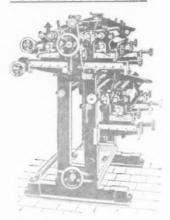
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There is valuable data - worth dollars and cents to youin the literature and samples described below.

EQUIPMENT SUPPLIES SERVICES

CORRUGATED BOXES. Illustrated 30-page booklet describes basic corrugated box styles designed to cope with the problems of original packing, handling, storage, stacking and loading. Hinde & (K-850)

PACKAGING FILM. Illustrated brochure cites advantages of "Pliofilm" as an overwrap for bacon, baked goods, pharmaceuticals, toys, hardware and sporting goods items. Packaging Films Department, The Good-year Tire & Rubber Co. (K-851)

FIBRE CANS. Literature describes line of metal-capped, all-fibre, lined and unlined fibre cans. Includes data on canning in-structions and on such dispensing devices as pouring spouts, plugs and sifters. The Cleveland Container Co. (K-852) (K-352)

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BLISTER PACKAGING MACHINERY. Series of technical bulletins describes machinery for blister forming, packaging and heat-sealing. Presents data on laboratory heat-sealer for all types of coated or laminated materials. Packaging Industries, Ltd., Inc. (K-853)

STERILIZING EQUIPMENT. 11-page illustrated brochure describes this company's steam, dry heat and gas sterilization equipment for use in the packaging of pharmaceutical products, foods, etc. Wil-(K-854) mot Castle Co.

BAGS AND COVERS. 12-page illustrated bulletin describes this company's facilities for the production of paper and plastic bags and covers for products ranging from chickens to curtain rods and clothes washers. Kennedy Car Liner and Bag Co.

CONVEYOR CHAIN. Illustrated brochure describes features of conveyor chain for food, beverage, automation, and packag-ing operations. Chain permits use of wire supporting rails, greater distribution of load. Diamond Chain Company, Inc.
(K-856)

AUTOMATIC PACKAGER. 4-page illustrated brochure describes machine that feeds, packages and weighs food products at packages and weigns food products at speeds of up to 44 bags per minute. Ma-chine works with cellophane, polyethyl-ene and coated Kraft as well as other roll stock and heat sealable bag mate-rials. General Packaging Equipment Company.

PACKAGING TISSUES. Catalog file folder contains samples and descriptions of tissues for wrapping glassware, ceramics, shirts, etc.; also for high-speed packaging of products with still-tacky painted surfaces. The Crystal Tissue Co. (K-858)

BENCH LABELER. 4-page illustrated brochure describes machine for labeling wide range of shapes in glass, boxes, cartons; books, etc., with glue at rates of up to 60 per minute. Machine handles labels up to 65/16 in. wide and 5½ in. high. Pneumatic Scale Corp., Ltd. (K-859)

PACKAGING MACHINERY GUIDE. 32-page brochure describes the various machines that handle flexible packaging film. Describes the machines' individual performance features and lists properties of poly-coated films to be used with each. Print-A-Tube Co.

MARKING INKS. 6-page folder discusses available inks for marking paper, wood, fabric, glass, metal, and plastics products. Markem Machine Co.

PRESCRIPTION CONTAINERS. Catalog de scribes this company's available stock prescription containers. Selection includes glass square jars, capsule vials, ointment jars, dropper bottles, nursing bottles and apothecary and penny candy jars. Also plastic snap cap viles. Brockway Glass Co., Inc. (K-862)

PLASTIC CONTAINERS. 4-page catalog describes available rigid polystyrene molded vials, swatch jars, flexible acetate and butyrate extruded vials and closures. Celluplastic Corp. (K-863)

AEROSOL VALVES. Booklet discusses steam valves for foods, drop and metered dosage valves for pharmaceuticals, spray valves for cosmetics, foam valves for shaving creams. Stresses the future of aerosol packaging in the food, drug and toi-letry fields. Precision Valve Corp. (K-864)

TAG STRINGER AND KNOTTER. Illustrated technical bulletin describes machine that handles booklet, shipping and merchandise tags from 1 by 1¼ in. to 6 by 12 inches. Machine has running speed up to 1500 technical speed to 1500 technical sp 7500 tags per hour depending on condition of string, length of run, and skill of operator. Graeber Stringing & Wiring Machine Co., Div. of New Era Mfg. Co. (K-865)

CELLULOSE ACETATE FILMS. Technical bulletin describes available cast and extruded cellulose acetate films for use in window box containers, laminated films, tapes and ribbons, bags and envelopes, and met-alized novelties. Celanese Corp. of Amer-

WAXES. 16-page technical bulletin gives information on properties, emulsions, testing methods, and packaging of micro-crystalline and fully refined parafin waxes. Industrial Products Dept., Sun Oil

PRINTING MACHINES. 15-page illustrated brochure describes a line of Heidelberg letterpress printing machines, capable of handling sheets up to 21% by 28% inches. Brochure also gives specifications for lines of cutters and creasers. Heidelberg East-

PRINTING ALUMINUM FOIL. 9-page article discusses the lamination, coating, and printing of aluminum foil by gravure, flexography, lithography, letterpress and silk screen. Cochran Foil Corp. (K-869)

SHIPPING SACKS FOR EXPLOSIVES. 4-page brochure describes laminated textile shipping sacks for ammonium nitrate type ex-plosives. Describes construction and lists prices. Industrial Packaging Div. Chase Bag Co. (K-870)

BOTTLE-COTTONING MACHINE. 4-page illustrated brochure describes machine that places cotton in bottles filled with tablets or capsules at speeds up to 100 bottles per minute. Machine handles bottles up to 2½ in. wide. The Lakso Company, Inc. 1871. (K-871)

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EQUIPMENT . SUPPLIES . SERVICES

AUTOMATIC WEIGHER & FILLER. Catalog sheet describes machine for weighing and packaging free and non-free flowing materials at the rate of 18 to 20 per minute. Specifications included. Richardson Scale Co. (K-872)

DECORATED METAL BOXES. Illustrated brochare describes lines of round and rectangular decorated metal boxes for use as containers for cookies, cakes, candies, glazed fruits, etc. Empire Can Corp.

(K-973

DIVIDING MACHINE. 4-page illustrated brochure describes machine for dividing bottles or cans into 2, 3, 4, or more lines for inspection, case packing, filling, banding or labeling purposes. Economic Machinery Co. (K-874)

PORTABLE BAG CLOSER. Illustrated catalog file describes electrically-operated portable bag closer that closes the average 100-lb. bag in less than 6 seconds. File also lists tape binding attachment, suspension units, carriage conveyor and other auxiliary equipment. Dave Fischbein Co.

AUTOMATIC HEDGE GUIDING EQUIPMENT. Catalog describes features of edge-guiding equipment for use on all types of webfed machines used in processing papers, films, foils, cloths, etc. Fife Mfg. Co. (K-876)

CELLOPHANE. Illustrated brochure traces the history, uses, products, characteristics and future of cellophane. American Viscose Corp. (K-877)

MEAT PACKAGING EQUIPMENT. 4-page illustrated brochure describes a two-belt packaging line for sliced lunch meats; a junior wrap-shrink dual unit for wrapping bulky items in heat shrinkable film; label activator units; a scale-and-seal frankfurter unit; a hot plate, etc. Great Lakes Stamp & Mfg. Co. (K-878)

FOAM PLASTIC PROTECTIVE PACKAGING. Illustrated bulletin describes foam plastic prefabricated platforms for packaging hard-to-pack glass vials, ampoules, bottles and ointment tubes. Platforms eliminate hand wrapping of fragile items. Glo-Brite Products, Inc. (K-879)

AUTOMATIC BILLING MACHINE. 4-page illustrated brochure describes line of machines for filling containers with semiliquids and semi-solids at rates up to 250 per minute. Machines handle mayonnaise, jellies, pie fillings, cold creams, ointments, shoe dressings, etc. The Filler Machine Co., Inc. (K-880)

TRAY ASSEMBLER. 4-page illustrated brochure describes automatic tray assembler that forms corrugated trays at speeds up to 30 per minute. Machine handles blank sizes up to 28 inches wide by 34 inches long. Huntingdon Industries, Inc. (K-881)

custom packaging. Illustrated brochure describes this company's facilities for packaging non-food items. Company will package liquids, powders, and pastes in any container of any size. Wilco Company.

(K-882)

TAPE DISPENSERS. Catalog describes and gives prices for gummed and pressure sensitive tape dispensers, operated electrically and by hand. Bag sealer for sealing all polyethylene bags also listed. Derby Sealers, Inc. (K-883)

PROTECTIVE COVERS. 19-page illustrated brochure describes liners for drums, fiber containers, cartons, boxes and specials; bags for products and materials that are dry, damp or wet; and specialities for

custom packaging. Protective Lining Corp. (K-884)

describes lines of single-, two-, three-four-, and five-color rotary letterpresses that handle sheet sizes up to 52 by 76 inches. Miehle Printing Press and Manufacturing Co. (K-885)

AUTOMATIC PACKAGER. Illustrated technical bulletin describes machine that makes, fills and seals individual "teardrop" shape packages for small quantities of powders, flower seeds, pills, drugs, coffee, nuts, bulbs, etc., at the rate of up to 60 packages per minute. Ketchpel Engineering Co., Inc. (K-886)

ROLL LEAF STAMPING EQUIPMENT. 4-page illustrated brochure describes hand- and air-operated roll leaf stamping presses designed to imprint areas up to two by four inches. Machine can hot stamp up to 1,000 imprints per hour on plastic, paper, etc. Olsenmark Corp. (K-887)

PRINTING ON FOIL. 8-page brochure discusses techniques and advantages of printing foil by letterpress, lithography, silk screen and gravure. Contains printed foil samples. Kaiser Aluminum & Chemical Sales, Inc. (K-888)

STITCHES, PACKERS, STAPLERS. 8-page illustrated brochure describes features of manual, foot, pneumatic and electric stitchers, packers, staplers and nailers for use in assembly of cartons, containers, baskets, cases, barrels and boxes. Industrial Fashioner Div., Heller Roberts Manufacturing Corp. (K-889)

ADHESIVES. Booklet tells how to buy adhesives for better adhesion. Lists 23 basic yardsticks to determine the correct type to use. The Arabol Mfg. Co. (K-890)

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CARRYING HANDLES. Illustrated catalog lists carrying handles from 7 to 18 in. long in a variety of colors. Handles can be used for candy boxes or bags, suit and dress boxes, shoe boxes, toys, hardware, etc. Matching gummed tape also available. Carry-Pack Co., Ltd. (K-891)

SHORT CASE SEALERS. Illustrated 4-page brochure describes basic features of line of more than 100 different short case sealers. Units can handle case sizes ranging from 8 to 20 in, long. A-B-C Packaging Machine Corp. (K-892)

DE-PALLETIZER MACHINE. Illustrated brochure describes a machine designed to receive a pallet load of cases and to automatically unload the pallet by causing the cases to move away from the load individually at a rate of from 25 to 30 cases per minute. Alvey Conveyor Mfg. Co.

(K-893)

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Degradation by light

Continued from page 155]

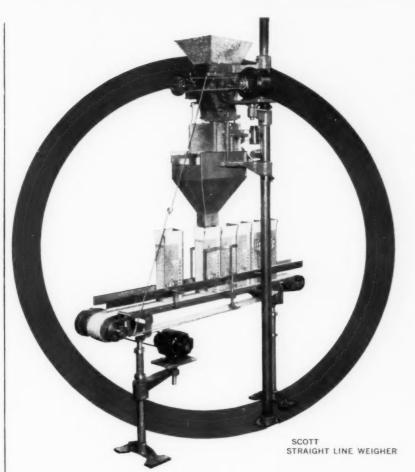
hydrogen evolution and the decreasing apparent quantum yields of hydrogen and functional groups, as well as the increasing yield of carbon monoxide.

Cellulose is known to fluoresce in the ultraviolet and the fluorescence increases upon irradiation (18).

Oxygen-labile linkages are formed during the irradiation of cellulose (2, 3); therefore, the close stoichiometric parallel which is to be seen in Figure 3 between the calculated number of chain scissions and the amount of carboxyl formed indicates that the reactions involving chain fracture and oxidation to carboxyl in air may be closely related.

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Its heart is the basic Scott Net Weigher . . . precision built, accurate, speedy . . . ideal for packaging coffee, rice, salt, beans, seeds, candy, crackers, tacks, chemicals, etc. By adding a conveyer, automatic controls (and a power feeder if needed), you have a fully-automatic weigher — changeover is a simple manual adjustment.

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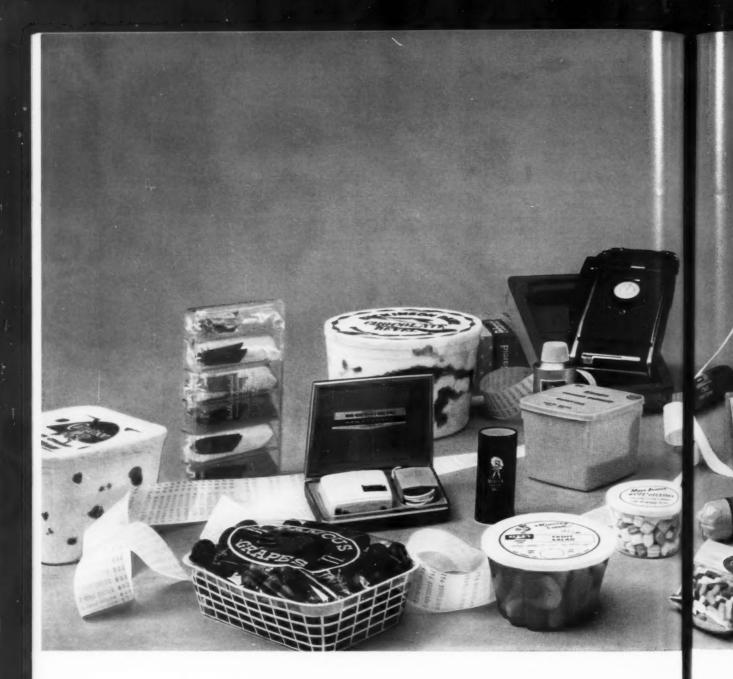




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show it in STYRON and sell it! Still sending your product to market in old-fashioned cover-up packages? Then it's time to give it the fresh visual appeal today's merchandising demands . . . in sparkling, clear plastic containers made of Styron®.

Here is rigid packaging that has not only increased sales but *sustained* those increases for hundreds of products. Styron plastic containers back up their visual appeal with complete product protection.

Let Dow Packaging Service help you choose from hundreds of shapes and sizes . . . opaque, crystal clear or in eye-catching colors . . . imprinted or ready for your label. Or we'll help you meet your specific needs. Write today.

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SARAN WRAP
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You don't have to hide your product to protect it! Crystal-clear Saran Wrap* turns any product into its own best sales force . . . and protects it, too.

Saran Wrap is the greatest moisture barrier of all clear packaging films. It's soft, pliable, completely transparent . . . and it won't cloud up or become brittle with age. In the household roll, it has become America's first name for real food protection.

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YOU CAN DEPEND ON





Keep 'em selling...guard their flavor with Saran Resin F220

Even a thin coating of Saran Resin F220 on your packaging film keeps flavor and freshness locked inside . . . and keeps customers coming back for more.

Saran Resin F220 reduces gas permeability and moisture vapor transmission to a minimum . . . increases resistance to greases, oils, acids and many organic liquids and vapors. Here is the coating that gives packaging materials a heaping measure of new protective qualities.

Minimum coating gives maximum protection on polyethylene, cellophane, polyester film, aluminum foil. Saran Resin F220 is soluble in acetone . . . releases solvent readily . . . and is adaptable to a wide variety of coating operations.

Whether you manufacture or use packaging film, investigate saran resins and take advantage of these sales-making properties. Write to your nearest sales office of the dow Chemical Company, Midland, Michigan, Coatings Sales Dept. 2257B.

YOU CAN DEPEND ON



Brilliant visual salesmanship with four colors on boxboard Share clear printing like this on hoxboard coated with Dow

Sharp, clear printing like this on boxboard coated with Dow Latex increases food package sales appeal. You can take advantage of better printability, gloss, controlled ink hold-out and better wet rub resistance by specifying latex coated boxboard.









Notice the quality reproduction and attention to detail on this four-color reproduction printed on .015 pt. boxboard coated with Dow Latex by the trailing blade process.

For fine quality reproduction, specify boxboard coated with Dow Latex

Packages made of coated boxboard using Dow Latex sparkle with sales appeal. Four-color food illustrations which are ordinarily hard to reproduce accurately on boxboard look "good enough to eat". And, the improved gloss imparted to boxboard by Dow Latex keeps packages looking their best, means better shelf display life.

Your advantages with Dow Latex begin with its lower cost . . . and include heavier coating weights, higher machine speeds, shorter drying time and broader applications.

For sharp, clear printing that means extra sales, use and specify Dow Latex coated boxboard. Complete information on the many advantages of using Dow Latex is available. Call the nearest Dow sales office or write THE DOW CHEMICAL COMPANY, Midland, Michigan, Coatings Sales Department 2160.



Visibility crating

Rototiller, Inc., Troy, N. Y., reports protective and merchandising benefits since adopting wirebound crates as shipping containers for its line of power and garden implements.

Penry W. Prince, company president, points out that the open-work crate, weighing only 44 lbs., offers full protection for the machines, which weigh as much as 330 lbs. each. Because of the shipper's open construction, he adds, dealers and customers can inspect the product for damage before opening the crate, thus minimizing returns.

"Visibility crating" also is rated a promotional plus by Prince. He says that many sales are traceable to the curiosity aroused among potential customers who see the loaded shipper on the rear of a truck or outside a store. End

New saran-type film

[Continued from page 150]

packaging materials. However, it can be used in thinner gauges because of its high strength and good handling properties. Sixty-gauge film is adequate for most applications.

Appearance and handling

The high degree of transparency and sparkle of the new film provide maximum eye appeal for food products. There is a minimum of reflected light, so that the contents of the package are easily and clearly seen through the film. This visibility is increased further when the film is shrunk into contact with a product so that there is no air beneath the film to diffuse transmitted light.

The film is flexible at room and refrigerated temperatures. For hand or semi-automatic wrapping operations, it has a softness and pliability which allows easy and rapid packaging. It has sufficient tack so that folds and tucks remain in place until secured by sealing; however, there is not enough tack or static to make handling difficult.

Printing

Cryovac film is easily and effectively printed by the flexographic process, in single or multiple colors. Since the film shrinks uniformly in two directions, there is no distortion of printing caused by heat shrinking. Inks specially formulated for the

ANOTHER VERTROD FIRST!!!

- New HIGH-SPEED Thermal Impulse TRIM-SEALER for Polyethylene with SCRAP BLOW-OFF and RECYCLER.
- . Over 50 SEALS per minute.
- Fully Automatic and foot switch actuated Semi-Automatic models in sizes 14" to 24".
- · Cold heater bars.
- No heat-up time necessary.
- · Automatic Scrap Blow-off.

This newest and most advanced addition to the Vertrod line of Thermal Impulse Sealers is particularly suited for applications where HIGHEST SPEED bag closing is necessary and water-tight seals are not required.

The Vertrod HIGH-SPEED Thermal Impulse Sealers employ compressed air to close the jaws as well as to blow away the trimmed-off scrap.

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Waste, rejects, and the cost of reworking can take all the profit out of your packaging or converting production.

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MODEL B-49 STRAIGHTLINE VACUUM FILLER. Most automatic one-operator multiple filler. With or without discharge conveyor. Contact parts of stainless steel, plastics on order. Adjustable for container sizes from AGST to gallon size finishes. Send for Model No. B-49 Bulletin. lon size finishes. S No. B-49 Bulletin.

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U. S. SIPHON FILLER. For all liquids including foamy products or products that do not permit agitation. Stainless steel tubes; acid resistant glass lined tank. Adjustable for all containers. Send for the Siphon Bulletin.

FOR RECOMMENDATIONS, please specify: Your product, size and type container and desired filling rate per minute, hour or day. No obligation implied. Address the home office.

HAND FILLER. Highly perfected advanced type. Send for the Hand Filler Bulletin.

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film result in excellent adhesion and appearance.

In addition to clear, the film is manufactured in the orange and red transparent colors traditionally used in packaging many smoked meats and cheeses.

Packaging performance

The shelf life of processed meats, cheese, cut-up poultry and other similar products packaged in the new Cryovac film has been found in many cases to be the maximum attainable short of actual vacuum-packaging methods. There is virtually no loss from product dehydration. Spoilage caused by rancidity, mold or other microbiological growth is greatly retarded.

The new film enhances the appearance of products because of its tight cling, heat-seal, transparency and printing qualities. Its flexibility, strength and elasticity result in fewer rewraps, since there is less breakage during handling.

Use of the film in hand wrapping and semi-automatic packaging operations is well established. A new wrapping unit (Figure 2) consisting of a film dispenser, Teflon-coated hotplate and hot-air shrink tunnel greatly speeds hand wrapping. A calibrated wrapping surface allows accurate measurement of film sheets for variable-size products, resulting in film economy. Positive heat sealing produces neater packages at higher speeds.

Among the products presently being commercially packaged in the new film by hand-wrap methods are cured and smoked meats, processed meats, cut-up poultry, frozen fish, frozen meats, cheese, pizzas, and fruit and nut cake.

For automatic packaging machines, special formulations of Crvovac film have been developed with increased stiffness and decreased friction and static, resulting in improved machine operation. Ease of sealing and tight cling contribute to effectively machine-sealed packages. Among the products now taking machine wraps are sliced bacon, frankfurters and luncheon meats. With minor adjustments, the following machines have been found to handle Cryovac film rapidly and efficiently: Package Machinery FB and FB-1; Hayssen 511, 811, 91LU and 91L, and the Wrap King M. F and P-2 machines. END



Get better looking, lower cost package identification and decoration with a MARKEM METHOD

Hand stamping, using decals, stenciling - such methods can not only reduce the attractiveness and sales appeal of your package, but consume valuable time as well. "Outside printing" requires large inventories . . . causes waste from obsolescence . . . can result in production delays as well. The time and money saving way around these obstacles - with added quality besides is a Markem Method working in your plant. This is a combination of the right machine, type and specialty ink to identify or decorate your packages at the rate you need, as you need them. Whether you want to screen decorate designs on molded plastics . . . print pressure sensitive tape with product name, trademark and directions for use . . . imprint variables on bakery labels, set-up or flat folding boxes, lithographed cans or lids - there's Markem equipment and a proven method for the job. The two machines shown are typical of more than a dozen used in the packaging field; typewheels, or masterplates and typebars, make imprint changes fast, easy; 10,000 currently available specialty inks offer virtually any combination of color, drying speed and special property you want. In many cases, Unitized Markem printing heads can be combined with packaging equipment.



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Essay contest awards

The California Packaging Club established in 1955 and already an influential force in the packaging industry on the West Coast—has presented two awards for papers dealing with various phases of packaging. Winners of the 1958 essay contest are Thomas C. Sheffield of the Sheffield Tube Co. and George Rowe of E. I. du Pont de Nemours & Co., Inc.

Mr. Sheffield's paper, titled "To Err is Human—and Costs Money," gives actual case histories of costly packaging errors made by several companies in different product fields, brought to his attention in a canvass of California firms engaged in consumer packaging.

Among the cases cited was one of a candy manufacturer, who, to save a few pennies, ordered his candy boxes lined with a cheap chipboard instead of a moisture proof board. By the time the 20 carloads of candy arrived at their destinations, enough moisture had been absorbed by the board to give all the candy a disagreeable odor. The entire shipment was a complete loss. A drug manufacturer who decided to market a rubbing alcohol in an aerosol spray can ordered 100,000 packages. In shipment, contents of the cans had been dispensed. On checking, it was revealed that the cap manufacturer had reduced the depth of the caps by 1/16 in. and that the valves were made 1/16 in. longer. Thus, when cases were piled on top of each other in shipment, the weight of the top cases was enough to press the caps down on the valves, activating the valves to release the contents. Several examples of the mis-use of squeeze bottles were also cited.

The paper written by Mr. Rowe is not available for publication due to DuPont company restrictions. End

Saving product, film

[Continued from page 122]

necessity of adding small compensating weights.

Having had only a short period of use, Lewis is unable as yet to give actual savings figures on net weights. However, company officials report that tolerances are being kept much closer with the new machine. The reduction in maintenance should further boost savings. The supplier





Everyone's talking about the advantages of packaging with polyethylene. Superior strength, long durable life, lowest cost of all packaging films are among its features.

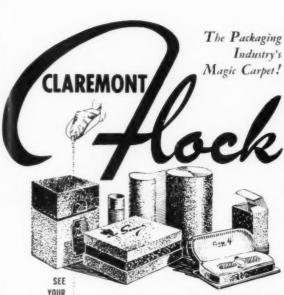
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quantities for easy pick up or packag-ing. Completely automatic opera-tion cuts rolls into sheets. Quick, easy change from one sheet size to an-other—from 4" x 4" up to 28" x 1 28", square or rectangular.

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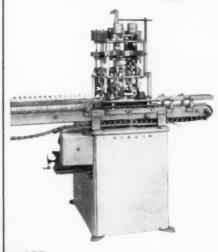


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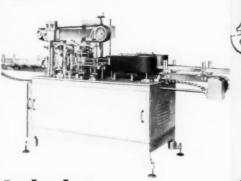
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Fillers — overhead drive in vacuum, gravity and volumetric types. Models from 8 to 40 spouts handling all types of foamy and still liquids—for glass, metal or plastic containers from fractional ounce to 5 gallons.



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This Hi-Vi feeder has everything you want-because you* helped design it! Based on years of research among people who use feeders, it's the most efficient, most up-to-date feeder you can buy. Gives a smooth, level flow to bulk materialspermits automatic, accurate, controlled feed for use in spreading, sorting, separating, aerating, cooling, drying, sifting, proportioning, etc. Rate of flow is variable from ounces to tons per hour for all types of bulk materials: hot, dry, dusty, lumpy, abrasive, etc.

Note these "asked for" features -many of them Eriez exclusives!

Totally enclosed drive element—longer coil life, dust- and maisture-resistant • Electro permanent magnetic drive— has lifetime-powered Alnico V magnet, needs no rectifier • Disc type glass fiber springs—infinite spring life, rustproof, won't pack or corrode • Greater capacity than com-parable size units • Superior control—for full feed or dribble feed • Quality control—all units pre-tested and stabilized at factory

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Now . . . low cost . . . accurate "batch" counting for small products.





The Post FCB-1 is a sorting and counting device which incorporates a Syntron vibrator, with a Decitron Preset Counter. Model illustrated utilizes a P2 counter, capable of 'batch' counting small objects in any quantity from 1 to 100.

Very small products can be neatly separated on the special conveyor belt . . . individually counted . . . dropped into a 'hold' tray and when the desired count is reached, the entire batch is fed into a waiting box, bag or other container. This latest Post development will feed 300 to 1000 pieces per minute and is portable! Size: only 53" long, 18" high, 12" wide. Cost as shown, \$3500.

Post will be glad to furnish quotations for models capable of counting larger hatches.



POST ELECTRONICS

Division of Post Machinery Co. 165 Elliott St., Beverly, Mass.

reports that the machine is guaranteed to deliver 80% of the bags to a tolerance of within one piece of candy. The remaining 20% of the bags contain not more than one extra piece of candy. There are no underweights.

The end-sealing section takes advantage of the soft-sealing characteristic of polyethylene. To form the top seal of one bag and the bottom seal of the next bag simultaneously, a 1/4-in. ribbon heating element is employed. An impulse current flashed through this ribbon forms the seal. While the polyethylene is still in the molten state, a cold wire of 0.009-in. diameter is pressed across the seal. Pressure of this wire against a Teflon-coated back-up plate divides the seal and the completed package falls onto a take-away conveyor. The resultant 1/8-in. seals, requiring no useless outer flange, reduce over-all length of the package from 93/4 to 91/8 in., saving 7 sq. in. or 6.6% of polyethylene film per package.

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The rigid control of the timing and sealing period needed to insure a perfect seal is accomplished with electronic controls and adjustments. Longitudinal seals on the pouches are formed by a conventional resistance sealer with a glass fibre mask.

At the Lewis plant, four weighing buckets service a twin-head machine that forms two pouches simultaneously. To keep up with the output of 65 a minute, weigh buckets are filled and dumped in pairs. END

Protective drum lining

Before Allied Chemical Corp.'s National Aniline Division could start full-scale production of urethane foams, one of the difficult problems that required solution was packaging of the highly reactive chemicals used in its manufacture. Research has resulted in the development of an epoxy-phenolic lining material, applied tightly and uniformly inside 55-gal. drums, that holds the material in perfect condition, without deteriorating reactions, for at least three months, the company reports.

The diisocyanates used in making urethane foams react instantly with water or moisture to form a white precipitate; steel, oxygen in the air and other materials discolor and contaminate the product. Slight color

"Move the Contents" Not the Drum!



Transport your liquids (or semi-liquids) to point of use through inexpensive piping with a Graco "Direct-From-Drum" pump and show tre-

mendous savings by cutting unnecessary plant traffic. The modern way is to transport your liquids or fluids from receiving room to point of use through a simple pipe line. Air-powered, reciprocating pumps run only when valve at delivery point is opened. No expensive electrical wiring required. This lightweight drum pump fits any stand-

ard 2 inch bung opening. Some plants handle up to 25 different fluids this Graco way - and cut in-and-out traffic of full and empty drums. Investigate today how similar savings can be made in your plant.

GRACO air-operated "DIRECT-FROM-DRUM" PUMPS

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Sometimes use of a more expensive adhesive can help you to more profits by reducing production costs.

Findley high speed resin adhesives for packaging and paper converting give greater mileage. Handle many stocks without changeover. Eliminate rejects and reworking. Permit top machine speeds. Save you money!

For proof let our specialists fill you in on the details and samples; and show you how to ...

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NOW...an amazing midget imprinter for wrapping machines*

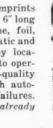
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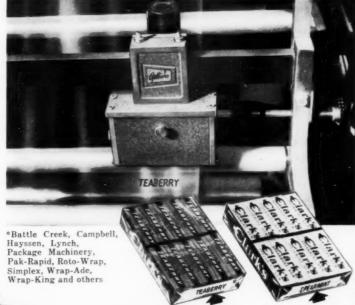
- Occupies less than 1 cubic foot!
- Fully enclosed for instantdrying action!

Compact "forward-design" unit imprints copy legends or codes up to 4" wide by 6" long on cellophane, polyethylene, glassine, foil, paper, waxed paper, etc. Fully automatic and foolproof-registers imprints in any location, requires no adjusting nor skill to operate and produce consistently high-quality impressions. Visible ink supply with automatic feed guards against printing failures. Weighs less than 5 pounds. Scores already n successful use coast to coast.



First and foremost in automatic production-line CODING, MARKING and **IMPRINTING** machines





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General Mills, as a final step to perfection in packaging their new PROTEIN PLUS hot oat cereal, added SEAL-SPOUTS for /

EASIER OPENING EASIER POURING EASIER STORING



For a plus value, Seal-Spouts have established consumer acceptance and preference for aluminum pouring spouts.

And for production economy, Seal-Spouts are automatically applied to the package right in the production line.

If you package free-flowing products, Seal-Spouts will help you sell them.



SEAL SPOUT Corp.

MOUNTAINSIDE, NEW JERSEY

changes and precipitation are easto detect, because pure diisocyanateare clear liquids with a faint yellow hue.

National Aniline's Buffalo laboratory undertook tests to find economical containers that had the sturdinesand durability of steel drums, yet would seal off diisocyanates from every material with which they might react during handling and shipment from the company's Moundsville, W. Va., plant.

Tests showed that a certain type of epoxy-phenolic lining material is chemically unreactive with diisocyanates and gives the best protection to urethane foams in 55-gal. drums. Because of the high value of the product, two coats of the lining are applied to reduce risk of contamination. Precise manufacturing techniques are required to insure that the two coats of lining material are applied tightly inside the drum, in uniform thickness and continuously over drum-body seams, around the bung-hole fittings and on the threads of the bungs to make a complete barrier between chemicals and steel.

Filling the drums presents no unusual problems except when absolute clarity of the product is required. In such instances, the drums are first filled with nitrogen and, as disocyanate flows in, the nitrogen is displaced and vented through the pouring spout. This procedure prevents air from reaching the product.

The three grades of diisocyanate produced by National Aniline and marketed under the trade name Nacconate are packaged in these special-lined containers.

SUPPLIES AND SERVICES: Special-lined drums by Jones & Laughlin Steel Corp., Container Div., Pittsburgh 30, END

SPE conference

High interest in the newer plastics materials—urethanes, high-density polyethylenes, polyolefins—was evident at the regional technical conference on "Plastics in Packaging." held last month in Hartford, Conn. by the Society of Plastics Engineers. Inc. Sponsored by the Society's Western New England Section, the conference was chairmanned by B. R. McNeill of Fuller Brush Co.

Nine speakers presented papers on various aspects of plastics in packaging, ranging from materials.



CLEAR COVER

lets your product show thru

Here's protection, plus visibility, plus color! Base of this box is solid red plastic . . . provides rich contrasting background for scissors display. Note how molded grooves hold scissors in place even when box is tipped. You can often eliminate special fittings and excess packing by using Vlchek custom molded plastic containers.



CLEAR BOX

gives complete visibility

A chain store selling bath salts in assorted colors, chose this clear plastic box. Plastic packages add glamour, help win counter display space and encourage customers to buy by the boxful!



SOLID COLOR

carries sharp imprint

VIchek will make opaque plastic boxes in any color you desire. This box is maroon with gold leaf lettering hot stamped into the cover.

Your product WILL SELL FASTER! ...in a Low VLCHEK plastic box

- * 29 stock boxes available
- ★ 9 over-all sizes with over 1000 possible compartment arrangements
- * PLUS custom molded boxes to your specifications

PLASTICS DIVISION

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12 FREE CANS

For each gross purchased.

LOOK FOR YOUR
FREE BONUS
CARD
IN EACH BOX!

KEEP YOUR MOLD RELEASE COSTS DOWN

IMS Silicone Spray is specially designed to eliminate sticking problems in the molding and in the food and packaging fields. With the exclusive all-metal, fast acting spray head you get finer atomization every time—conserves costly silicone and goes much further than

many other cans using cheaper spray heads— Remember, look for your FREE BONUS card in every box.



IMMEDIATE DELIVERY

INJECTION MOLDERS
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methods and testing to machinery and equipment.

Plastics materials were discussed by Daniel A. Petrino of Thickol Corp., whose subject was "Packaging With Rigid Urethane Foam;" Robert Doyle of Phillips Chemical Co., who spoke on "High-Density Polyethylene Film;" William Bracken of Hercules Powder Co., who covered "New Polyolefins for Blown and Injection Molded Packaging," and A. J. Dragonette of Bakelite Co., whose subject was "A Dynamic Index of Packaging Materials."

Methods and testing were covered by papers on "Toxicity and Organoleptic Testing" by Dr. Louis Barail; "Applied Engineering for Plastics Packaging" by R. Bruce Holmgren of Package Engineering, and "Thermoforming—The Industry Reporter's Viewpoint" by William C. Simms of MODERN PACKAGING.

Machinery and equipment phases of plastics packaging were presented by Stanley Zerbe of E. I. Du Pont de Nemours & Co., Inc., speaking on "Packaging Machine Advances for Polyethylene" and A. Kaufman of Prodex Corp., whose subject was "Equipment for Packaging Based on the Extrusion Process."

F. S. Leinbach of Riegel Paper was the luncheon speaker. End

760 cans a minute

What is claimed to be the fastest can-filling system in the beer industry is now in daily operation at the San Francisco plant of Burgermeister Brewing Corp. Using a 60valve, flat-top filling machine, the company is turning out 760 cans (12-oz. size) per minute.

Burgermeister reports that its high-speed filling system, developed in cooperation with a machinery supplier, was installed to meet an increased demand for the product.

A specially devised gravity-filling technique that allows the beer to flow gently into the cans with minimum agitation is claimed to eliminate air pick-up and foaming during the high-speed filling operation, while maintaining a uniform carbon-dioxide content.

Supplies and Services: "Cemco" 60valve filling machine by Crown Cork & Seal Co., 9300 Ashton Rd., Philadelphia 36. End

Squeeze-to-use packaging by

BRACON



Easy to fill . . . economical to ship . . . appealing to retailers . . . convenient to use.

Only Bradley . . . makes polyethylene tubes, bottles, and squeeze-cans.

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Squeeze-To-Use packaging by

BRACON

BRADLEY CONTAINER CORPORATION MAYNARD, MASSACHUSETTS

A subsidiary of American Can Company New York • Chicago • Los Angeles • Toronto

Polyester pouch

[Continued from page 101]

Depending on color, the pouches are run two different ways. White is filled into six pouches at 580 pouches per minute. For the other four colors—two green, two red, a blue and a yellow—pouches are filled, also simultaneously, at 480 a minute. The horizontal heat seal for the top of the next set of pouches which is being formed directly above makes the bottom seal of the preceding set.

On the cut-off wheels and blades, the pouches are severed through the horizontal heat seals. Along the vertical heat seals the white pouches are slit into pairs and the color pouches are divided into trios. At the same time, these pouches are slit vertically for user convenience in tearing them apart. Each finished pouch measures 15% in. wide and 37/16 in. long. Easy opening is provided by notching the top seal area to start the tear, which takes the very top end off the spout. This spout arrangement is interesting in that it allows easy and spillproof expulsion of the coloring material by rolling up the end of the pouch. similar to the way in which a collapsible metal tube is rolled.

Pouches are deposited upon a conveyor at the bottom of the machine and carried to a nearby cartoning line. A converted auto-valve springtension tester is used for spot testing the pouches under 250 p.s.i. As the pouches move past, inspectors throw out any with contaminated seals and also spot weigh others for a quality-control check.

The pouches are grouped for cartoning, each carton receiving two white pouches and the six-fold assortment of four colors.

Since adopting these new polyester pouches, the company reports, rejects have been reduced from a former high of 20% with pouches made of other films to about only 5%, and experience is expected to reduce rejects even further.

A standard tuck-end automatic cartoning machine has been converted to a glue-end cartoner. Pouches are inserted by hand into the cartons, although all the rest of the cartoning operations are automatic at a rate of 75 cartons per minute. Cartons are finally cased and labeled for shipment. END



by Crompton & Knowles Packaging Corp.

From case openers and positioners to case packers to gluers and sealers, you'll find that C & K's Russell line of automatic equipment will help you cut your packaging costs.

Integrated and interlocked with controls, the line shown opens cases automatically at 22 per minute, positions them, accumulates cans from single line infeed, then packs these cans in a 6 x 4 x 2 pattern into cases—which are then fed automatically to the Gluer and Sealer Line speed

— 1056 cans per minute. Available in other can sizes, pack arrangements, case sizes and speeds.

Find out how C & K's Russell line can help you — write today for detailed descriptions and specifications — Crompton & Knowles Packaging Corp., 100 Berkshire St., Holyoke, Mass.



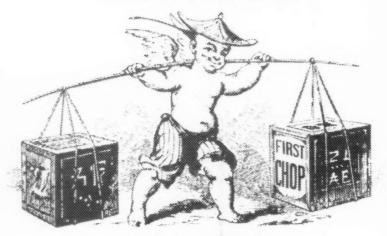
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there is only one reason for designing a package ... to self more of a product"

PACKAGE



DESIGN

The Walter Frank Organization

ENGINEERING . DEVELOPMENT . SALES

NFPA winners

The President's Plaque, top award of the third annual Flexible Packaging Competition, was won by Republic Mills Corp., New York, for its Mimi de France girdle packaged in a flexographic-printed polyethylene



Top winner at NFPA competition.

bag. The competition was co-sponsored by the National Flexible Packaging Assn. and Paper, Film and Foil Converter magazine.

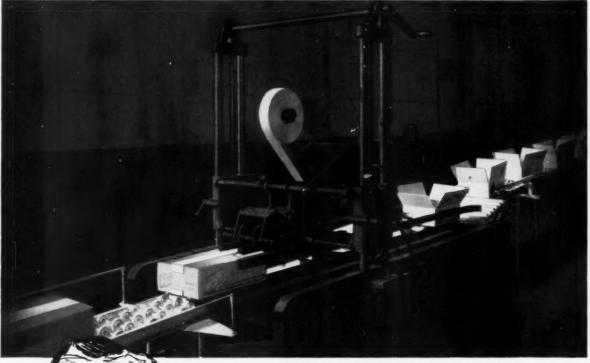
Republic's package also won firstplace awards in two of the competition's 28 classifications—"Polyethylene Bags and Pouches" and "Soft Goods, Wearing Apparel." Designed for self-selection rack display, the bag was designed by Max G. Solz Associates and produced by Paramount Packaging Corp.

A total of 93 awards was made to 70 separate packages. Because awards were presented both for package construction and for major end-use classifications, duplicate prizes were given in many instances. Polyethylene bags and wraps were singled out for 32 of the awards, with 11 going to cellophane packages, 10 to laminations and coatings, and nine to papers.

Other packages to win two firstplace awards were: Armour & Co.'s aluminum-foil wrapped Dial Soap, with design by Robert Sidney Dickens, Inc., and foil by Reynolds Metals Co.; Crown Zellerbach's acetate-overwrapped cartons for Chiffon facial tissues, with design by Frank Gianninoto & Associates and film by The Dobeckmun Co., and Ralston Purina's cellophane pouches for Ry-Krisp, with film supplied by Milprint, Inc. End

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New film source

The booming polyethylene-film field will have a major new source of supply soon.

A program of investigation being undertaken by E. I. du Pont de Nemours & Co., Inc., Wilmington, is expected to lead the way to commercial manufacture of polyethylene films by the company's Film Dept. First step in the program will be the building by the Film Dept. of a laboratory and pilot plant adjacent to the DuPont Polychemicals Dept.'s principal polyethylene-resin facility. the Sabine River Works at Orange, Tex. Construction is to start in the near future and the facilities are expected to be ready for operation the latter part of 1959.

A Film Dept. technical section to be established at the Sabine River Works will use the new facilities for evaluation of resins, development of film-manufacturing techniques and production of polyethylene film for market development.

DuPont points out that this program does not alter the role of the company's Polychemicals Dept. as a supplier of polyethylene resin to the film industry. It notes, however, that recent technological advances indicated the desirability of a new exploration of the field. END

Military-industry forum

In an atmosphere filled with the excitement and challenge of space exploration, nearly 800 packagers and suppliers gathered with Army, Navy and Air Force officials in Washington, D.C., Sept. 30 to Oct. 2, to probe present and future problems of packaging in the atomic and space age. The occasion was the Fourth Joint Military-Industry Packaging & Materials Handling Symposium.

The forward-looking stage was set on the opening day with a keynote address by Vice Admiral R. B. Pirie, Deputy Chief of Naval Operations. and a panel discussion on space logistics chairmanned by H. H. Koelle of the Army Ballistic Missile

Outlining the problems of weightlessness, radiation and extreme temperatures that await spacemen, these speakers urged packagers to develop new methods and materials for the reduction of tare weights and functional packages that circumvent



the peculiar conditions found outside the earth's atmosphere. These advances are needed now by the designers of space vehicles, it was stressed.

Replying to this challenge, Clinton W. Blount, vice president of marketing for Bakelite Co., welcomed the opportunity to grapple with "nearly impossible" packaging tasks. And this view was supported by the 123 speakers in 18 sessions on the second and third days of the conference. Nine of these sessions were devoted strictly to packaging materials and machines, and to the training and selection of packaging personnel.

Plastics loomed large in the panel presentations on materials, with emphasis on polyester and polyethylene films. Thermoforming of vinyl, polyethylene, polystyrene and cellulosics also came in for detailed discussion, as did the advances made in foamedplastic packaging materials and molded containers. New ideas in blister, skin and pouch packaging for industrial products were contributed by speakers on a machinery panel.

Present plans call for the Air Force to sponsor the fifth symposium in 1959. Location and dates have not yet been fixed. END

Easier product flow

A new product—a fluffy white powder that is reported to impart good flow qualities to any paste or liquid dispensed from plastic bottles or tubes—is being marketed by B. F. Goodrich Chemical Co. under the trade name "Carbopol."

A water-soluble polymer, Carbopol is being produced at the company's new \$3,000,000 plant at Calvert City, Ky., which has an immediate production capacity of 70,000 lbs. a month, according to Goodrich.

Use of the new product is said to make cosmetics and toothpastes smoother, eliminate drying and caking often found in creams and lotions, and eliminate the "shake well before using" requirement for virtually every product normally needing that label. The powder is also useful in pharmaceuticals, polishes, waxes, inks, paints, waterproof and oilproof coatings, and industrial specialties, according to the Goodrich company, which predicts great potential for use of the material in the food industry, End

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FOR SALE-"1 HAYSSEN MODEL 5-9 Cellophane wrapping machine 5 years old— complete with electric eye and U-board feeder. Capable of wrapping 50 packages per minute with one or two operators. Used very litle. Machine easily adjustable to wrap up to 9" in length and 5" in width— height automatically adjusts from ½" to ½". Machine is now set up to wrap read-Used very into the control of the co

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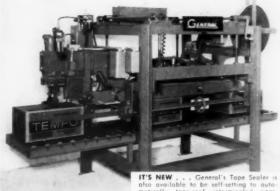
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Index to Advertisers

	Distribution of	this issue: 2	5,000		
		102	D 10 0 0 0 D		
24	A-B-C Packaging Machine Corp.	182	Darling & Company, Glue Di- vision	169	Hinde & Dauch, Division of West Virginia Pulp and Pa-
190	Acme Gravure Services Inc.	56	Davis, Joseph. Plastics Co.		per Co.
70	Acme Steel Company		Diamond Chain Company, Inc.,		Hoerner Boxes, Inc.
28	Aluminum Company of Amer- ica, Alcoa Wrap Division		a Subsidiary of American Steel Foundries		Hope Machine Co.
27	American Can Company	210	Dillon-Beck Manufacturing Co.	70	Hudson-Sharp Plant, FMC Packaging Machinery Div.
216	Bradley Container Corp., a	5	Dobeckmun Company, The		a demand made in the same
116	Subsidiary	57	Doughboy Industries, Inc.,		
140	American Flange & Manufac- turing Co., Inc.		Mechanical Division Dow Chemical Company, The		
60	American-Marietta Company,	205, 206	Latex	172	Industrial Marking Equipment
100	Sinclair and Valentine Co.	204	Resins	216	
196	Amsco Packaging Machinery Inc.	202, 203 35	Styron and Saran Wrap Dow Corning Corporation		Company
18	Anaconda Company, Cochran	86	Dunning, J. H., Corporation	65 87	Inland Container Corporation Inta-Roto Machine Co., Inc.
100	Foil Company, a Subsidiary		du Pont de Nemours, E. I., &	0.	Interchemical Corp.
186	Arenco Machine Co., Inc. Armstrong Cork Co., Glass and	52, 53	Co. (Inc.) Film Dept., Cellophane	11	Finishes Division
1.0	Closure Division	157	Film Dept., Cel-O-Seal	55, 80 72	Printing Ink Division International Staple & Machine
73	Artcote Papers Inc.	82	Film Dept., Mylar	1	Company
		63	Grasselli Chemicals Dept.		
		32, 33	Polychemicals Dept., Alathon		
3.5	P. I. Die Communication of				
25	Bakelite Company, Division of Union Carbide Corporation			44	Jones, R. A. & Company, Inc.
185	Bartelt Engineering Co.	165	Eastman Kodak Company, Cel-		
69	Bensing Bros. and Deeney, a Subsidiary of Sun Chemical	100	lulose Products Division		
	Corporation Chemical	81	Eastman Chemical Products, a	202	Kennedy Car Liner and Bag
45	Bernardin Bottle Cap Com-	47	Subsidiary Ekco-Alcoa Containers Inc.	223	Co., Inc.
**	pany	230	Emhart Mfg. Co., Standard-	41	Keyes Fibre Company
51 216	Bostitch Bradley Container Corp., a		Knapp Division		Kidder Press Co., Inc.
210	Subsidiary of American Can	212	Eriez Mfg. Co.	176 78, 79	Kleen-Stik Products, Inc. Koppers Company, Inc., Plas-
1.5	Company	•		10, 17	tics Division
15 160	Brockway Glass Company, Inc. Brown Company			75	Kuss, R. L., & Company, Inc.
	Burt, F. N., Co., Inc.				
			Federal Paper Board Co., Inc. 13 Findley's		
			Fisher's Foils Limited	2000	
		228	Flex Products Corporation	200B 85	La Cellophane S.A. Lowe Paper Company
173	Cahill, J. D., Co.	197 34	Flint Ink Corporation		Lynch Corporation
223	Cameo Die and Label Com-	3.5	FMC Packaging Machinery Division		
175	pany Celanese Corporation of	76	Hudson-Sharp Plant		
110	America, Plastics Division	48	Simplex Plant		
17	Cellu-Craft Products Corpora-	181 218	Stokes & Smith Plant Frank, Walter, Organization,	211	MRM Company, Inc.
30	tion Champlain Company, Inc.	210	The	176 209	Manhasset Machine Co. Markem Machine Co.
		190	Fry, George H., Company	19	Maryland Glass Corp.
	Corp.	29	Fuller, H. B., Co.	46	Metal Closures Ltd.
211 66, 67	Claremont Flock Corporation Clark, J. L., Manufacturing Co.				Cover Michigan Carton Co. Milprint Inc.
224	Classified			23	Maprint me.
89	Cleveland Container Company,	995	Consent Commented Machinery		
19	The Cochran Foil Corporation, a	223	General Corrugated Machinery Company, Inc.		
10	Subsidiary of the Anaconda	61	General Printing Ink Co., Divi-	90	Nashua Corporation
	Company '		sion of Sun Chemical	90	National Can Corporation
218	Conapac Corporation, Roto-	61	Corporation Gilman Paper Company		Cover National Starch Prod-
21	Wrap Machine Corp. Div. Container Equipment Corpo-	225	Gisholt Machine Company	100	ucts Inc.
	tion	1	Goodyear Tire & Rubber Co.,	189 88	New Era Manufacturing Co. New Jersey Machine Corpora-
Back Cover	Continental Can Co. Hazel-Atlas Glass Division	213	The, Packaging Films Dept. Gottscho, Adolph, Inc.	00	tion
192, 193 173	Cornell Paperboard Products	213	Gray Company, Inc.		
	Co.				
195	Crescent Ink & Color Company				
71 217	Crocker, H. S., Company, Inc. Crompton & Knowles Packag-				Olin Mathieson Chemical
211	ing Corporation, Russell	200A	HAMAC Packmaschinen AG	153	Corp. Film Division
	Division	6	Harcord Mfg. Co., Inc.	163	Forest Products Division
22	Crossett Company, The Crown Cork & Seal Company,	210	Hayssen Manufacturing Com-	172	Oliver Machinery Co., Label
•	Inc., Crown and Closure Divi-	192, 193	pany Hazel-Atlas Glass, Division of	126, 127	Division Owens-Illinois, Paper Products
	sion		Continental Can Co.	160, 161	Division

6	HAMAC Packmaschinen AG Harcord Mfg. Co., Inc. Hayssen Manufacturing Com-	Corp. 153 Film Division 163 Forest Products Division 172 Oliver Machinery Co., Label	
	Hazel-Atlas Glass, Division of Continental Can Co.	Division 126, 127 Owens-Illinois, Paper Products Division	

74A Crown Zellerbach Corporation, Gummed Tape Division 198 Heinrich, H. H., Company 83 Hesser, Fr. (Continued on page 228)



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- 31 Paramount Paper Products Co. Paterson Parchment Paper
- Company 196 Pennsylvania Glass Products Co. Inc.
- Peter Partition Corp.
- Peters Machinery Company Pitney-Bowes, Inc. 211
- Plastic Artisans, Inc. Pneumatic Scale Corp., Ltd.
- 212
- Post Machinery Co. Potdevin Machine Co.
- Redington, F. B., Co. Resina Automatic Machinery Co., Inc. Reynolds Metals Co. 194
- 12, 13
- Rhinelander Paper Company, Subsidiary of St. Regis Paper 178, 179 Co.
 - Riegel Paper Corporation
 - 218 Roto-Wrap Machine Corp. Di-
 - vision, Conopac Corporation 229 Rowell, E. N., Co., Inc.
- 178, 179 St. Regis Paper Co., Rhine-lander Paper Co., a Subsidi-
 - Scandia Packaging Machinery Company
 - 2.1 Schultz Engineering Corp.
 - 214

 - Seal Spout Corp. Shuford Mills, Inc. Simplex Plant, FMC Packag-
 - ing Machinery Div.
 Sinclair and Valentine Co.,
 Division of AmericanMarietta Company
 Smith, H. P., Paper Co. 60

 - Spencer Chemical Co. Standard-Knapp, Division of Emhart Mfg. Co.

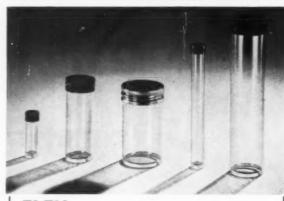
- 183 Steigerwald, A. M., Co. 181 Stokes & Smith Plant, FMC Packaging Machinery Div.
- Sun Chemical Corporation 69 Bensing Bros. and Deeney, a
- Subsidiary General Printing Ink Co., Di-
- Taber Instrument Corporation
- Toledo Scale Corp. Tol-O-Matic, Inc. 180
- 195
- 146 Tri-Sure Products Ltd.
- Union Carbide Corporation, Bakelite Company Division Visking Company Division 159
- 182A-D Union Carbide International Company
 - 201 U. S. Automatic Box Machin-
 - ery Co., Inc. 208 U. S. Bottlers Machinery Com-
 - pany 20 U.S. Industrial Chemicals Co., Division of National Distillers & Chemical Corp.

- Venesta Ltd., Foil Division Verner, B., & Co., Inc. Vertrod Corp.
- 228
- Visking Company, Division
- Union Carbide Corporation Vitra-Tone Engraving Corp. Vlchek Tool Co., The, Plastic
- 219
- Wagner Iron Works West Engineering Company, 208 Inc. West Virginia Pulp & Paper
- Company Bleached Board Division 38, 39
- 166, 167 Container Board Sales, Kraft
 - Hinde & Dauch Division
 - 171
 - Wheeling Stamping Co. Wilsolite Corp.
 - Wrap-Ade Machine Co., Inc.
 - 42, 43 Youngstown Sheet & Tube Company, The

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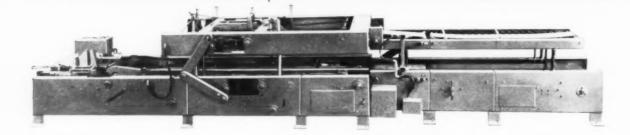
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